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ABSTRACT

The lack of information on the extent and nature of drug use and abuse among minority youth has limited the development of culturally relevant and effective interventions for this group. These papers present research findings and information about research methodology directed at this target group. Papers include: (1) "Integrating Mainstream and Subcultural Explanations of Drug Use among Puerto Rican Youth" (Orlando Rodriguez, et al.); (2) "Orthogonal Cultural Identification: Theoretical Links between Cultural Identification and Substance Use" (E. R. Oetting); (3) "Acculturation: The Broader View. Theoretical Framework of the Acculturation Scales" (Juan-Luis Recio Adrados); (4) "Interactional Theory: Its Utility in Explaining Drug Use Behavior among African-American and Hispanic Youth" (Marvin D. Krohn and Terence P. Thornberry); (5) "Examining Conceptual Models for Understanding Drug Use Behavior among American Indian Youth" (Jeff King and Julian F. Thayer); (6) "Acculturation Strain Theory: Its Application in Explaining Drug Use Behavior among Cuban and Other Hispanic Youth" (William A. Vega, et al.); (7) "Validity of Self-Reports in Student-Based Studies on Minority Populations: Issues and Concerns" (John M. Wallace, Jr. and Jerald G. Bachman); (8) "Interviewing Minority Youth about Drug Use: Telephone vs. In-Person Surveys" (Leonard LoSciuto, et al.); (9) "Hispanic Dropouts and Drug Use: A Review of the Literature and Methodological Considerations" (Ernest L. Chavez); (10) "Getting into the Gang: Methodological Issues in Studying Ethnic Gangs" (Karen A. Joe); (11) "Identifying, Gaining Access To, and Collecting Data on African-American Drug Addicts" (Leon E. Pettiway); (12) "Surveying and Tracking Urban Elementary School Children's Use of Abusable Substances" (Patricia J. Bush, et al.); (13) "School and Community Politics: Issues, Concerns, and Implications when Conducting Research in African-American Communities" (Julius Debro and Darlene J. Conley); (14) "Substance Use Disorders among Young Minority Refugees: Common Themes in a Clinical Sample" (Joe Westermeyer); and (15) "Current Gaps and New Directions for Studying Drug Use and Abuse Behavior in Minority Youth" (Mario R. De La Rosa, et al.). (SLD)

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Drug Abuse Among Minority Youth: Advances in Research and Methodology

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Introduction and Overview

Mario R. De La Rosa, Juan-Luis Recio Adrados, and Norweeta Milburn

During the past decade, some advances have been made in understanding the nature and extent of the drug use problem encountered by minority youth.[1] Results obtained from this research have provided suggestive evidence that American Indian high school seniors are more likely than their non-Hispanic white, Hispanic, African-American, and Asian-American counterparts to use and abuse licit and illicit drugs (Beauvais et al. 1989; Bachman et al. 1990). Data also suggest that stress caused by assimilation into American society and lack of family cohesiveness and support may be related to the drug use behavior of Hispanic and African-American youth (Vega et al., this volume; Szapocznik and Kurtines 1980). Information on the prevalence and causes of drug use among minority youth has been utilized by human service and health care providers, law enforcement officials, and policymakers to develop interventions and policies geared toward addressing the drug problem experienced by these youth.

Despite these research advances, little is known about the patterns, causes, and consequences of illicit and licit drug use and abuse among minority youth. The limited literature suggests that, because of cultural influences, unique economic situations, and formal and informal social network systems, the drug-using behavior of minority youth may vary significantly from that of nonminority youth. Thus, there is an urgent need for etiologic research that investigates the interactive roles of intrapersonal, interpersonal, familial, cultural community, and other larger societal factors on the onset, casual use, escalation to use, maintenance, development of dependence, cessation of use, and relapse to use of licit and illicit drugs among minority youth. Studies are also needed that would investigate protective factors among minority children who are at risk but have refrained from using drugs or from escalating to abuse from initial limited exposure. There is also a need for epidemiologic studies to determine the prevalence of drug use among Asian-American and Hispanic youth of South and Central American and Caribbean extraction. Research on the interrelationship between drug abuse and violence among school dropouts, gang members, and other minority youth should also be undertaken.

This paucity of research on the drug use behavior of minority youth can be attributed to several factors; the following ones seem to stand out: (1) inadequate exploration of the important role that ethnic and racial factors play in the drug use behavior of growing ethnic or racial minority populations; (2) inaccessibility of these populations to drug abuse researchers because of the mistrust that many ethnic groups, including African-Americans, have toward drug abuse researchers; (3) lack of trained minority drug abuse researchers; (4) lack of well-designed community-based research projects that would utilize qualitative and quantitative methodologies in combination when collecting data on minority youth; and (5) lack of resources to conduct well-designed drug abuse etiologic research projects.

The lack of information on the extent and nature of drug use and abuse problems among minority youth limits the development of culturally relevant and, therefore, effective drug abuse prevention and treatment programs directed toward this group. Human service and health care workers who provide drug abuse services to minority youth have long argued that current drug abuse prevention and treatment programs are not effective in addressing the drug use problems found among these youth. They attribute this failure to the fact that the majority of preventive and treatment programs are based on data collected from research studies conducted on nonminority youth. Because the problem of drug use and abuse affects the physical and emotional well-being of minority youth, there is an urgency to develop interventions that will effectively counteract this problem.

With this sense of urgency, on July 17-18, 1991, a technical review—titled "Epidemiologic Drug Abuse Research on Minority Youth: Methodological Issues and Recent Research Advances," sponsored by the Epidemiologic Research Branch, National Institute on Drug Abuse (NIDA), Division of Epidemiology and Prevention Research—was held in Bethesda, MD. The major objective of this conference was to stimulate further research on the potentially unique nature of the drug-using behaviors of minority youth by reviewing current research and proposing future research directions. Data were presented on recent findings from theory-driven research studies on the etiology of drug use among minority youth. In addition, information regarding methodological problems and other barriers affecting the lack and quality of research in this field also was presented.

The papers presented at this technical review are contained in this monograph and fall into three categories: (1) review of theory-driven research findings and other theoretical considerations, (2) methodological problems and other barriers, and (3) future research orientation.

The first set of chapters presents findings from theory-driven research or discusses theoretical issues relevant to research on the drug-using behavior of minority youth. In their chapters, Rodriguez and colleagues, Oetting, and Recio Adrados seek to address the important role that acculturation-related stress and cultural values toward substance abuse play in the drug-using behavior of Hispanic and American Indian youth.

The findings presented by Rodriguez and colleagues point to the need to expand existing theoretical models to include a subcultural component when exploring the drug-using behavior of Puerto Rican and other Hispanic youth. They provide evidence that suggests that future etiologic research on the drug-using behavior of Puerto Rican youth should extensively explore the role that cultural values toward drug use and loss of cultural identity play in the drug-using behavior and drug-dealing activities of these youth. Oetting's chapter discusses the importance of cultural identification in the well-being of American Indian youth. According to Oetting, those American Indian youth who lose their cultural identity are more susceptible to use and abuse of drugs than those who do not. Recio Adrados provides a review of different theoretical models underpinning the development of scales to measure the complex phenomenon of acculturation. He argues that many of the efforts made in measuring the construct of culture are in need of further theoretical expansion. Recio Adrados calls for the development of a multidisciplinary theoretical approach to further the knowledge base regarding the importance of cultural changes in the lives of immigrant groups. He states that such a theoretical approach could lead to the development of scales that would more accurately determine the impact that cultural changes and cultural values have on the drug-using behavior and emotional well-being of ethnic minority youth.

The chapters by Brook and by Krohn and Thornberry explore the role that network and family systems have on the drug-using behavior of Puerto Rican and African-American youth. Brook provides the results from a project that explored the impact of familial relationship and attachment, the school environment, peer relationships, individual personality traits, and other domains on the drug-using behavior of African-American and Puerto Rican youth. These results suggest that the domains of personality, family, and drug context have direct influence on the drug-using behavior of these youth. In particular, Brook found that nonconflictual and affectionate mutual attachment relationships between parents and children led to lower levels of drug use among these children.

Similarly, Krohn and Thornberry present findings from a research project that explored the network systems of white non-Hispanic, African-American, and Puerto Rican youth drug users and nonusers. The findings suggest that nonusers tend to have stronger family network systems than do users regardless of race and ethnic background. On the other hand, users appear to have more supportive and intimate relationships with their friends than do nonusers. However, the friendship networks of users were less stable than those of nonusers regardless of race and ethnic background. Overall, family networks play a more important role in the drug-using behavior of Puerto Rican youth than African-American youth and white non-Hispanic youth.

The last chapter in this section, by King and Thayer, examines two promising theoretical models that might explain substance use among American Indian youth: a life stress model and a modified peer cluster model. According to King and Thayer, the life stress model proposes that the primary predictive factors for substance abuse are life stress, availability of social support from family, and other formal and informal social institutions. The peer cluster theory hypothesizes that the strongest predictive factors for substance abuse are peer influences, particularly association with deviant peers. Both models were tested to determine their relative ability to predict rates of substance use among the youth interviewed. Goodness-of-fit indices demonstrated that both models were of equal quality in accounting for the patterns among factors hypothesized to relate to substance abuse.

The second section of this monograph addresses a variety of methodological issues affecting the quality of data collected on the drug use and abuse behavior of minority youth. Findings from the research illustrate the need for better data collection procedures when conducting drug use research in minority populations. Vega and colleagues present information on the development of scales that accurately measure the impact that culture changes and orientation have on the drug-using behavior of Hispanic adolescents. They provide a detailed description of the steps taken in the development of these scales, including the problems encountered. They argue that the development of such scales is only a first step in the difficult process of developing an integrative theoretical approach to exploring the drug-using behavior of Hispanic and other ethnic minority youth.

Wallace and Bachman address the critical issue regarding the reliability and validity of self-reports in student-based studies of minority populations. Using data from a large national representative sample of high school seniors, Wallace and Bachman investigated whether minority high school seniors underreport their drug use. Examination of the data suggests that, although caution should be used when reporting and interpreting racial differences in school-based survey responses, especially when such differences are relatively small, large racial and ethnic subgroup differences in self-reported drug use are generally valid and reliable.

The chapter by LoSciuto and associates examines the impact that mode of interview (face-to-face vs. telephone) of interview has on the self-report of rates of drug use of 18- to 25-year-old African-Americans and Hispanics compared with self-reports by same-age and older white non-Hispanic respondents. The findings suggest that the response rates for the telephone interview were similar to those reported in face-to-face interviews for white non-Hispanics but not for African-Americans. Telephone interviews resulted in a lower response rate for alcohol, marijuana, and cocaine use compared with the face-to-face interviews for African-Americans. Rates for Hispanics were not included because of the small number of subjects in this study.

The problems associated with collecting data on the drug-using behavior of Hispanic school dropouts is the focus of the chapter by Chavez. Issues related to identifying, interviewing, and retaining Hispanic school dropouts in drug abuse studies and problems regarding the definition of what constitutes a school dropout are addressed. Recommendations are also made for the need for longitudinal studies and other research on this topic.

Similarly, Joe and Pettiway both discuss issues related to the collection of data on ethnic gangs and young African-American addicts. Joe provides a brief overview of the current state of research on ethnic gangs, looking at the nature of these studies, primary methods used, and reasons for the sporadic development of an ethnic-specific focus. Second, Joe examines how researchers can begin studying ethnic gangs, focusing on the methodological procedures—specific tasks, general problems, specific ethnic concerns, and strategies—that researchers need to be aware of when conducting ethnographic-based research on ethnic, particularly Asian, gangs.

Pettiway discusses several methodological issues associated with identifying, gaining access to, and collecting data on young African-American drug users when utilizing an ethnographic approach. He also discusses the need to develop a plan of action to deal with the following issues: addressing safety concerns; hiring, training, and supervising the project staff; learning street language; ensuring continual funding of the project; and obtaining cooperation of the academic institution or organization with which the researcher is affiliated in the overall administration of the project.

Bush and colleagues focus on the need to develop effective plans to track inner-city youth who participate in school-based drug use and abuse studies. The authors provide a detailed description of the activities undertaken in their study to ensure maximum subject retention. Essential to their retention efforts were the development of a good working relationship with school officials and a survey log to allow the staff to track students while protecting their identity. Bush and coworkers argue that, without a good tracking system, school-based drug abuse longitudinal studies on urban samples may be jeopardized.

The chapter by Debro and Conley emphasizes the need to bridge the existing gaps between drug abuse researchers and African-American communities. To obtain access to African-American communities, drug abuse researchers first must develop rapport with these communities. Essential to the improvement

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of this relationship is the recognition by researchers that subjects, as well as the larger minority communities, need to be appropriately compensated. In addition, the lack of well-trained African-American researchers negatively affects the collection of data on the drug use behavior of minority individuals.

The final methodological chapter is by Westermeyer, which focuses on (1) presenting data on the drug-using behavior of young minority refugees of Southeast Asian and other ancestry and (2) making future recommendations on etiologic drug abuse research on this population. The results suggest that many refugees adopt a drug-using lifestyle and that additional research is needed to understand the drug-using behavior of these individuals.

The concluding chapter of this monograph discusses the need for additional etiologic and epidemiologic research on the nature and extent of the drug use and abuse problem among minority youth. De La Rosa and colleagues emphasize the need for the development of a more integrative conceptual model and data collection approach in future research on the drug-using behavior of minority youth. The development of such a comprehensive approach can lead to the development of more effective drug abuse prevention and treatment strategies to address the problem of drug use and abuse confronted by minority youth.

Participants, authors, and other individuals provided valuable contributions to the technical review and to this monograph. It is hoped that this monograph will serve to inform public health officials, clinicians, and researchers concerning some of the basic issues regarding the drug-using behavior of minority youth and stimulate further research directed toward the prevalence, patterns, causes, and consequences of drug use and abuse among minority youth.

NOTE

1. As has been defined in this monograph, minority youth are 24 years of age or younger and include foreign-born as well as U.S.-born (first-, second-, and third-generation) Asian-Americans and Pacific Islander youth (i.e., Vietnamese, Filipinos, Koreans, Cambodians, Chinese, Japanese, Samoans); Hispanic youth (i.e., Mexican-Americans, Cuban-Americans, Puerto Ricans, South and Central Americans, and other Caribbean youth of Spanish ancestry); African-American youth; youth immigrating recently from other countries (such as Haiti, Jamaica, Uganda, and Nigeria); and American Indian and Alaska Native youth belonging to any of the more than 200 tribes currently found in the continental United States and in Alaska. In addition, although the focus of this research monograph is on minority youth, some of the issues discussed can be utilized in improving understanding of the drug use problem faced by older minority individuals (25 years and older) in some cases and by nonminority youth and adults.

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Integrating Mainstream and Subcultural Explanations of Drug Use Among Puerto Rican Youth

Orlando Rodriguez, Juan-Luis Recio Adrados, and Mario R. De La Rosa

INTRODUCTION

Drug use and delinquency researchers have developed useful, empirically tested models (Brook et al. 1990; Elliott et al. 1985; Jessor and Jessor 1977; Kandel 1974; Kaplan 1975) but have done so on the basis of a database generally restricted to white, middle-class youth from small cities and/or suburban areas. Therefore, there is little information on the extent to which existing mainstream theories are applicable to minority, poor youth from inner-city areas, the population believed to be most at risk of engaging in delinquency and alcohol and other drug use.

In contrast, subcultural explanations of drug use and other problems among minority youth have been based on a rich store of data (for the most part qualitative) focusing on sociocultural aspects of inner-city life that are unique to specific problem behaviors (Anderson 1978; Curtis 1975; Hannerz 1969; Horowitz 1982; Liebow 1967; Rainwater 1970). However, the theories have been derived without theoretical or empirical reference to mainstream explanations of deviance. This chapter is based on the premise that conceptual models from mainstream and subcultural explanations of deviance should be integrated into extended models that distinguish between the universal and culturally specific aspects of theories. This strategic approach has been employed in a series of analyses attempting to extend Elliott and associates' (1985) Integrated Social Control (ISC) model to drug use and delinquency among Puerto Rican youth. This chapter summarizes these analyses and amplifies them by considering in greater depth how the theoretical assumptions and methodological approaches to the notion of acculturation may be integrated with mainstream approaches.

MAINSTREAM AND SUBCULTURAL EXPLANATIONS OF DRUG USE

Although mainstream theories of deviance are largely based on the experiences of nonminority youth, they constitute an essential point of departure for conceptualizing minority adolescent deviance. These theories differ on the factors they emphasize as central, but most agree on the types that must be included.

Most theories view delinquency as a reaction to *disadvantaged status* in terms of ethnicity or class (Rutter and Giller 1983; Braithewaite 1981; Datesman et al. 1975) that adversely influences individuals' options in life. Social psychological processes have been posited to link disadvantaged status to deviance. An important example is strain theory (Cloward and Ohlin 1960; Simon and Gagnon 1976; Elliott and Voss 1974), which emphasizes discrepancies between achievement aspirations and expectations as the motivational mechanism for deviance.

In some theories, a *social environment* tolerant of crime and drug use is viewed as contributing to adolescents engaging in deviant behavior (Conger 1971; Shaw and McKay 1942; Smith 1983). An antisocial environment may provide opportunities for involvement in deviant behavior through the availability of inappropriate behavior models to emulate or through instrumental opportunities. For example, drug use is more likely if drugs are available in the neighborhood (Dembo et al. 1979, 1986).

Most mainstream theories view deviance as the result of failures in *conventional bonding* by the family, school, and other institutions whose functions are to socialize youth to the conventional order (Kandel 1980; Jessor and Jessor 1977; Brook et al. 1990). When socialization is effective, youth develop an emotional attachment to the school and family, a commitment to conventional activities, an involvement with such activities, and a belief in the moral order underlying conventional bonds (Elliott et al. 1985; Kaplan et al. 1984; Kandel 1980; Jessor and Jessor 1977; Hirschi 1969).

Peer bonding is another critical element in explaining deviance. In the social learning perspective (Akers 1977; Sutherland 1947) adolescents learn delinquency by modeling—exposure to friends' delinquent behavior, peers' social approval of delinquent acts, and anticipated rewards for engaging in delinquency. Peer group influences on deviance are especially likely when there is weak bonding to the family and school (Elliott et al. 1985; Kandel 1980; Jessor and Jessor 1977; Hirschi 1969).

More proximal to problem behavior and influenced by the more distal social factors discussed above is the adolescent's *self-concept*—the overall sense of personal worth and efficacy (Bandura 1982; Brook et al. 1990; Kandel 1974; Kaplan 1975; Kaplan et al. 1984). Serious psychological disorders such as depression may underlie poor self-concept (Jensen et al. 1988; Mitchell et al. 1988).

The factors discussed above can be integrated. For example, Rodriguez and Zayas (1990) point out that disadvantaged status, low income, and discrimination, together with social environments that tolerate deviance, may be posited to weaken conventional bonding and strengthen deviant peer bonding. Weak conventional bonds and strong deviant peer bonds may directly influence deviance, but they may also foster a weak self-concept, a more proximate and psychological influence on deviance. Models such as these, which generally have not been informed by insights from studies of minority group behavior nor tested among minority subpopulations, are nevertheless assumed to be universally applicable. Therefore, it is important to consider how explanations derived from the sociocultural experiences of minority groups provide insights not encountered within mainstream approaches. Delinquency and drug use research on minority populations has often relied on explanations that link such behaviors to subcultural characteristics, for example, ethnically derived norms and values about the male role (Anderson 1978; Curtis 1975; Horowitz 1982). Other subculturally based concepts, such as delinquent subculture (Miller 1958) and lower class subculture (Curtis 1975; Hannerz 1969; Lewis 1961; Liebow 1967; Rainwater 1970; Suttles 1955), emphasize the existence of survival strategies to deal with disadvantaged status.

Although subcultural theories have had an important influence in deviance research, they have not been integrated into mainstream drug use and delinquency research. Often based on difficult-to-replicate qualitative research, they have seldom been empirically tested through large-scale sample surveys. How then can models attempting to integrate subcultural and mainstream explanations be tested? To address this issue, the authors applied Elliott and colleagues' (1985) ISC model to inner-city Puerto Ricans. The ISC model integrates factors relevant to major explanations of deviance—strain theory (Elliott and Voss 1974; Simon and Gagnon 1976), social control theory (Hirschi 1969), and social learning theory (Akers 1977; Conger 1976). The model posits that strain—discrepancies between aspirations and expectations about school, family, and occupation—indirectly influences deviance through its negative effects on conventional bonding to the family and school (a social control construct). Conventional bonding in turn indirectly reduces deviance through its negative effect on tolerance of deviance (social control) and deviant peer bonding (a social learning construct). Thus, the effects of strain and conventional bonding are filtered through deviant peer bonding.

The factors emphasized in the ISC model are also conceptualized in adolescent drug use research. For example, Johnson and coworkers (1987) found that integrated differential association and situational group pressure notions satisfactorily explained the role of peers in the etiology of drug abuse. In a similar way, Krohn (1974), Jacquith (1981), and Kaplan and colleagues (1984) found the same effects. Peer group drug use and bonding also predict drug use in the empirical studies by Meier and Johnson (1977), Kandel (1978, 1985), Ginsberg and Greenley (1978), Jessor and coworkers (1980), Clayton (1981), Glynn (1981), Clayton and Lacy (1982), Krosnick and Judd (1982), Bank and colleagues (1985), Needle and coworkers (1986), Castro and colleagues (1987), Kandel and Andrews (1987), Newcomb and Bentler (1987), and Brook and coworkers (1990). However, the ISC model may be useful to apply to drug use because of its attempt to integrate different conceptual approaches to deviant behavior (including strain theory, which is less often applied to drug use) and because of its demonstrated applicability to both behaviors in the National Youth Survey (NYS) (Elliott and Huizinga 1984; Elliott et al. 1985).

Our analyses were based on the assumption that mainstream models of problem behavior are applicable to Hispanics. Like mainstream youth, Hispanics may face problems of getting along with their families and teachers, are subject to influences of peer pressures, and experience varying levels of frustration based on the extent of discrepancy between their aspirations and expectations. However, our analysis focused on how subcultural factors relevant to Hispanics and other minority groups interrelate with factors drawn from the ISC model.

As in ethnographic studies of African-American populations, some studies of Hispanic problem behavior have followed the general approach of examining the influence of subcultural norms on delinquency and other behaviors (Horowitz 1982; Moore 1978). However, in examining Hispanic subcultural influences, a more common approach is found in the concept of acculturation, which refers to the social psychological process whereby immigrants and their offspring change their behavior and attitudes toward those of the host society as a result of contact and exposure to the new dominant culture (Berry 1980; Padilla 1980). The importance of the concept lies in its ability to capture an important psychosocial aspect of the immigrant experience, the problem of meeting the normative demands of two different cultures. Because it involves conflict and stress, acculturation has been linked to dysfunctional behavior (Anderson and Rodriguez 1984; Rogler et al. 1991; Szapocznik and Kurtines 1980; Szapocznik et al. 1980).

How is acculturation linked to problem behavior? In one conceptualization, immigration is seen as disrupting adherence to the country of origin's values, norms, and social bonds, one of whose functions is to inhibit dysfunctional behavior. For most immigrant groups, acculturation involves adaptation from a traditional culture, which provides controls on behavior, to the more modern American culture, which places fewer restraints on nonconventional behavior. Unacculturated families may lack knowledge of accepted behavior norms in the United States and, therefore, may be less likely to socialize their children adequately, which in turn may influence problem behavior by weakening family and school bonds. Evidence for this hypothesis is provided by studies finding higher rates of alcohol and other drug use, suicide, eating disorders, and other problem behaviors among acculturated and/or second-generation Hispanics (Sorenson and Golding 1988; Caetano 1987; Gilbert 1987; Pumariega 1986; Buriel et al. 1982; Graves 1967).

A closely related conception focuses on the relationship between acculturative stress, intergenerational conflict, and problem behavior. Immigration may generate stress as immigrants try to adapt to and resolve differences between the old and new cultures (Vega et al. 1985*a*, 1985*b*; Born 1970). For example, in their study of drug use among adolescent Cuban-Americans, Szapocznik and associates suggest that the discrepancy between the parents' and adolescents' level of acculturation will cause conflict for the adolescent and, therefore, a greater dependency on the peer group (Szapocznik and Kurtines 1980; Szapocznik et al. 1980). (See also Fitzpatrick [1971] with respect to delinquency among Puerto Rican youth and Beauvais and colleagues [1985] with respect to drug use among American Indian youth.) Adolescents in this situation may turn to drug use as a way of resolving acculturation conflicts with parents. In contrast to theories that view imbeddedness in traditional culture as inhibiting problem behavior, the biculturalism hypothesis asserts that those competent in negotiating the contradictory demands of both cultures should behave less dysfunctionally than those oriented to either Hispanic or American culture.

In several analyses, Rodriguez and Recio (in press), Rodriguez and colleagues (1990), and Rodriguez and Weisburd (1991) addressed the applicability of the ISC model to drug use and delinquency among inner-city Puerto Rican youth, focusing on the following two research questions.

First, would the factors operate among Puerto Rican adolescents in the same way as among mainstream youth, that is, with the same correlative strengths and in similar interrelationships? A related question is, would the factors operate similarly with respect to drug use and delinquency? It was hypothesized that two aspects of the sociocultural situation of Puerto Rican adolescents—the significance of the family in Puerto Rican culture and the relationship between conventional institutions and peer groups in the inner city—would influence the interrelationships among family, school, and peer involvement and their effects on deviant behavior (Rodriguez and Weisburd 1991). The sociological and anthropological literatures have often noted the influence of Hispanic family norms and values in Puerto Rican society (Roberts and Stefani 1949; Rogler

1978; Rogler and Hollingshead 1985) and the relevance of the Hispanic family for instrumental and emotional support (Recio 1975; Rogler and Cooney 1984). The family was expected to have a stronger influence among Puerto Ricans than was the case for the national sample. By implication, it was expected that peer involvement would be less important.

The inner-city character of the Puerto Rican sample suggested that conventional institutions would have different effects on peer groups than the effects expected for a mainstream population. Conventional institutions in the inner city may control adolescents through individual rather than collective action (Suttles 1955). As inner-city institutions, the family and school may exert less control over adolescent behavior in the street than is the case in other communities because there is likely to be less communication between these institutions. Consequently, inner-city youth may be more able than other youth to keep separate their actions in school, the family, and the peer groups. Thus, in contrast to what Elliott and associates (1985) found for mainstream adolescents, among Puerto Rican adolescents the family and school were expected to have direct negative effects on drug use.

A related issue concerned the relationship between alcohol and other drug abuse and delinquency. Our analysis focused on whether the relationship was spurious or causal (Elliott and Ageton 1976; Gandossy et al. 1980; Inciardi 1981; Collins 1981; Watters et al. 1985; White 1990). Either both behaviors are elements in a concurrent pattern of behaviors (Kandel 1980; Jessor and Jessor 1977) or both behaviors are explained by a common cause (White et al. 1987; Elliott et al. 1985). The ISC model has been shown to be equally applicable to drug use and delinquency; that is, the factors have similar strengths and interrelationships. The authors expected the same with respect to Puerto Rican adolescents.

Second, how would acculturation, the major factor identified in examinations of Hispanic adolescent deviance, interrelate with the ISC factors? Two hypotheses were entertained. One was that adherence to traditional Hispanic culture would inhibit deviance through the greater role accorded to institutional authority, as embodied by parents and teachers. Thus, the authors theorized that acculturation would exert powerful but indirect effects on drug use and delinquency through its influence on conventional and deviant peer bonding. Acculturated youth would be less bonded to their families and schools and more bonded to deviant peers and, thus, would be more likely to engage in drug use and delinquency. In a second and contrasting hypothesis, we assumed that biculturally involved youth would be less likely to engage in drug use and delinquency. Figure 1 summarizes the hypothesized extension of the ISC model that guided our analyses.

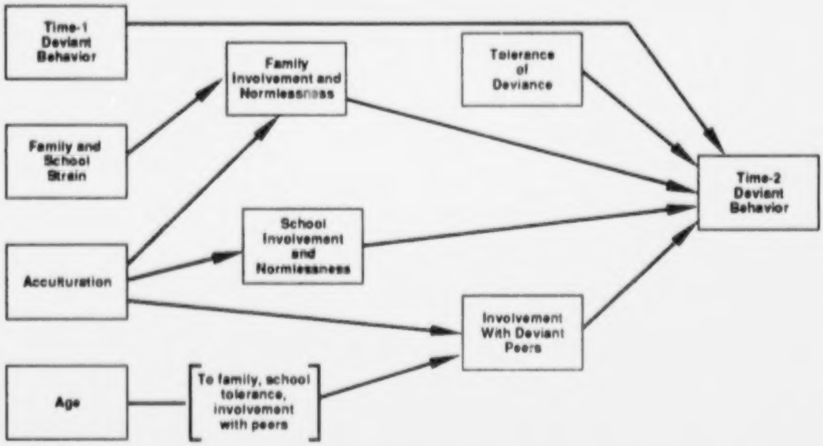
Time-1 Deviant Behavior
Family and School Strain
Acculturation
Age
Family Involvement and Normlessness
School Involvement and Normlessness
Tolerance of Deviance
Involvement With Deviant Peers
To family, school tolerance, involvement with peers
Time-2 Deviant Behavior

FIGURE 1. *Extension of ISC model to Puerto Rican adolescents*

METHODS

The authors attempted to answer these questions in the Puerto Rican Adolescent Survey (PRAS), whose analyses are summarized here and amplified by indepth examinations of the model.

The PRAS is a two-wave (1986 and 1987) representative sample survey of 12- to 19-year-old Puerto Rican males from the South Bronx, NY (Rodriguez 1991). Sampling yielded 1,170 eligible males, 1,077 of whom (92 percent) agreed to participate in the study. Respondent loss in the second wave was less than 17 percent, resulting in an overall response rate of 76 percent.

The NYS was based on a probability sample of adolescents ages 11 to 17 in the continental United States. The first wave consisted of 1,725 adolescents and represented 73 percent of all eligible youth selected for participation. Analysis focused on 869 males in the first and second waves. The data used for this study came from the first two waves, 1976 and 1977, obtained from the archives of the Inter-University Consortium for Political and Social Science Research. Both studies used the same data gathering procedures and the same measures (Elliott et al. 1983; Rodriguez and Weisburd 1991). In both surveys, information was self-reported in confidential face-to-face interviews, which occurred in most instances in the respondents' homes. Respondents were guaranteed anonymity and confidentiality, and all data collected were protected by a Certificate of Confidentiality from the U.S. Department of Health and Human Services.

Our analysis replicated Elliott and coworkers' (1985) measures. The predictive measures were family strain and school strain, family normlessness and school normlessness, family involvement and school involvement, attitudes toward deviance, involvement with drug-using peers, and previous drug use and delinquency. Two measures of drug use in the second interview year were used as separate final dependent variables. The first replicates Elliott and colleagues' study, based on self-reported use of five hard-core drugs. The second measure adds other serious drugs such as cocaine and crack, as well as marijuana and alcohol. The first measure was used to compare the PRAS and NYS samples, whereas the second, not replicable in the national data, was used to further analyze the PRAS sample. The delinquency measure was also drawn from Elliott and coworkers' measures and is based on self-reports of 26 felony and less serious offenses. The model was extended by adding age, an important control variable in adolescent deviance research, and measures of acculturation and biculturalism. Szapocznik's scale (Szapocznik et al. 1978) was included as a measure of acculturation and biculturalism. The same items were used in both measures, but in the latter, middle responses, denoting acceptance of both U.S. and Hispanic culture, were assigned the highest value. Table 1 shows how the measures used in the analysis were defined and constructed. Variable means and deviations are shown in table 2. The numbers after the variables indicate the time order (i.e., Wave 1 or Wave 2) posited by Elliott and colleagues (1985). Both the ISC predictors and acculturation scales yielded adequate alpha coefficients in reliability tests (Elliott et al. 1985; Szapocznik et al. 1978).

RESULTS

Application of the ISC Model to Puerto Rican Youth

Two aspects of the sociocultural situation of Puerto Rican adolescents were hypothesized to influence the interrelationships among the factors in the ISC model: the significance of the family in Puerto Rican culture and the greater social distance between conventional institutions and the peer group in the inner city. Family involvement and family normlessness were hypothesized to have stronger effects on drug use and peer involvement in the PRAS sample than in the NYS. Peer drug involvement was hypothesized to have a smaller effect in the PRAS sample. The inner-city character of the sample was expected to make the influences of the family and school on drug use more direct in the PRAS than in the NYS; therefore, the family and school indices were hypothesized to have stronger direct paths in the PRAS than in the NYS.

To test this, Rodriguez and Recio (in press) replicated Elliott and coworkers' (1985) analyses with the PRAS sample. As Elliott and colleagues had done, Rodriguez and Recio applied the full model, with the addition of age (see figure 1), which, along with the strain variables, appears in the earliest part

TABLE 1. *Measures and definitions of variables used in analysis*

Variable	Definition
Drug use	First and second waves: Frequency over 12 months prior to interview in using cocaine, LSD, barbiturates, amphetamines, and heroin. For the PRAS sample, a second measure of Wave 2 drug use: frequency of use during the past year of tobacco, alcohol, marijuana or hashish, hallucinogens, inhalants, phencyclidine (PCP), tranquilizers, amphetamines, barbiturates, crack, cocaine, heroin, opium, and other narcotics.
Delinquency	Elliott and coworkers' General Delinquency Scale, based on 26 items from self-reported delinquency scale, including Uniform Crime Report Part I offenses, minus a sexual intercourse item. Frequency of committing offenses over past 12 months. Nine categorical responses ranging from 1 for "none" to 9 for "2-3 times a day" were also used.
Involvement with deviant peers	Product of Peer Involvement Index x (Peers' Deviance Index—mean). Peer Index, Drugs: How many of the respondent's friends used (1) marijuana or hashish and (2) prescription drugs, for example, amphetamines or barbiturates, when there was no medical need for them during the past year? Response categories ranged from "all of them" (5) to "none of them" (1). For delinquency, the same procedure was used with respect to 10 index offenses. A summary score was obtained by adding responses. Peer involvement: Extent of time spent with peers on (1) weekday afternoons, (2) weekday evenings, and (3) weekends. Responses ranged from (1) none to (6) five weekdays and from (1) none at all to (6) a great deal on weekends.
Attitudes toward deviance	Asks the respondent to state how wrong are six delinquent acts, with four responses ranging from "very wrong" to "not wrong at all." A score was obtained by summing over the three items for each scale, with a high score reflecting a conventional orientation.

TABLE 1. *(continued)*

Variable	Definition
Family and school normlessness	Extent to which the respondent views his relationship to family and school as governed by conventional norms or as requiring a transgression of these norms. The scale assesses "subject's commitment to conventional social norms" (Elliott et al. 1985). The family normlessness scale contains four items; the school normlessness scale contains five items. The questions ask for the extent of the respondent's disagreement with items, for example, "it is important to be honest to your parents, even if they become upset or you get punished" and "to stay out of trouble, it's sometimes necessary to lie to teachers." Five responses, ranging from "strongly agree" to "strongly disagree." A score was obtained by summing over the number of items for each scale, with a high score reflecting commitment to conventional norms.
Family and school involvement	Amount of time spent with the family and in academic activities at school. For each scale, three questions ask the respondent to report the number of afternoons and evenings in an average week, Monday through Friday, and the time spent on weekends in each setting. The first two items in each scale use an open-ended response set (from 0 to 5 afternoons or evenings), whereas the item on weekend involvement uses a 5-point Likert scale ranging from "a great deal" to "very little." A score was obtained by summing over each scale, with a high score reflecting a high level of involvement.
Home and school strain	Extent of reported discrepancy between aspirations and expectations in each of five aspects of family and school life (e.g., "getting along with your parents"). The aspiration question has three responses: "very important," "somewhat important," and "not important at all," and the expectation question has three responses: "very well," "O.K.," and "not well at all." Responses to the two questions were cross-classified to construct a six-point discrepancy scale, with 1 indicating the lowest strain ("very important"—"very well") and 6 indicating the highest strain ("very important"—"not well at all"). A score was obtained by summing over the five items for each scale.

TABLE 1. *(continued)*

Variable	Definition
Acculturation	Acculturative Behavior scale x Cultural Preferences scale. First scale measures extent of adherence to American vs. Hispanic cultural traits such as language used with family and friends, ethnicity of friends, and ethnic self-identification—responses ranging from 1 to 5 (e.g., "speak Spanish only" to "speak English only"). Cultural Preferences scale measures extent of enjoyment of American music, radio, television, and dances; there are four items with responses ranging from 1 to 5 ("not at all" to "very much").
Biculturalism	Acculturative Behavior scale + Cultural Preferences scale. Same items as in acculturation scale but with responses recoded so that middle response is given the highest value. For example, language spoken with family is recoded so that 1="only English" or "only Spanish," 2="mostly English" or "mostly Spanish," and 3="both English and Spanish."

of the model. These variables are followed by measures of family and school involvement and normlessness. Finally, to explain involvement with drug use, the model includes attitudes toward deviant behavior, involvement with drug-using peers, and drug use at an earlier period, along with variables entered earlier in the model.

As summarized in columns 1 and 2 of table 3, results were similar for both samples. (In all tables, R-square results are significant at the .001 level. To make comparisons between the two samples possible, all tables show only unstandardized regression coefficients [Hanushek and Jackson 1977]; only the final path results are shown in the tables.) In both samples, direct paths leading to self-reported hard-core drug use were from involvement with deviant peers and prior use. (In addition, in the NYS, attitudes toward deviance had a direct effect when age was added to the model.) The strain variables affected the conventional bonding variables, and these in turn affected involvement with deviant peers, but neither strain nor conventional bonding variables directly influenced drug use or delinquency. However, a different causal pattern, more in line with predicted effects, appeared when the operation of the ISC factors was examined on a more inclusive measure of drug use (column 3 of table 3). Family and school involvement had significant direct effects, but these variables

TABLE 2. *Means and standard deviations of variables*

Puerto Rican Adolescent Survey

Variable	Mean	Standard Deviation	N
Hard-core drug use 2	.18	1.2	898
Hard-core drug use 1	.28	1.5	1,065
Use of all drugs 2	23.20	34.5	888
Delinquency 2	25.90	4.9	898
Delinquency 1	26.10	4.8	1,065
Involved with drug peers	.13	16.3	893
Involved with delinquent peers 2	2.80	85.7	886
Attitudes toward deviance 2	21.80	2.7	898
Family normlessness 1	9.10	2.5	1,073
School normlessness 1	12.30	2.7	1,075
Family involvement 2	13.20	4.0	898
School involvement 2	7.70	4.6	898
Family strain 1	13.40	5.1	1,048
School strain 1	15.00	4.7	1,047
Acculturation 1	413.60	96.6	1,065
Biculturalism 1	23.30	4.7	1,071
Age	15.60	2.2	1,071

National Youth Survey

Variable	Mean	Standard Deviation	N
Hard-core drug use 2	.29	1.3	868
Hard-core drug use 1	.33	2.6	869
Delinquency 2	26.60	6.1	868
Delinquency 1	26.80	5.5	869
Involved with drug peers	2.90	31.7	721
Involved with delinquent peers 2	19.40	62.9	718
Attitudes toward deviance 2	30.00	4.6	869
Family normlessness 1	9.10	2.5	864
School normlessness 1	11.50	2.7	858
Family involvement 2	12.90	3.5	867
School involvement 2	9.20	3.2	852
Family strain 1	13.30	4.6	866
School strain 1	14.80	4.0	857
Age	13.90	1.9	869

TABLE 3. *ISC model applied to drug use and delinquency; NYS and PRAS full-model unstandardized ordinary least-squares estimates*

	Hard-Core Drugs		All Drugs	Delinquency	
Variable	NYS (1)	PRAS (2)	PRAS (3)[a]	NYS (4)	PRAS (5)
Hard-core drug use 1	.375*	.242*	3.53*	—	—
Delinquency 1	—	—	—	.356*	.342*
Involved with deviant peers 2	.011*	.014*	.371*	.043*	.022*
Attitudes toward deviance 2	-.025**	-.031	-.890***	-.153*	-.098
Family normlessness 1	-.010	.005	-.035	-.007	-.021
School normlessness 1	-.008	.004	.080	-.116	.062
Family involvement 2	-.009	-.005	-.585***	-.079	-.116***
School involvement 2	-.011	-.007	-1.14*	.032	-.095**
Family strain 1	-.003	-.007	.003	-.043	-.026
School strain 1	-.001	.008	.120	.032	-.022
Age	-.026	.016	3.85*	-.347*	-.338*
R-square	.30	.17	.25	.48	.37

*p<.001; **p<.01; ***p<.05

[a] Column 3 is based on a more inclusive measure of drug use than column 2 (see text).

were not significant in the NYS. Thus, the effect of family involvement was much higher when more comprehensive drug use was examined. On the other hand, counter to expectations, the magnitude of the peer involvement coefficient was higher in the PRAS sample with all drugs than in the NYS with only hard-core drugs. The analyses also revealed differences in the roles of prior drug use and age. In the PRAS sample, prior drug use showed a much stronger effect when other drugs were included, and age had a positive direct effect on drug use. The results provided preliminary verification of our assumption that Hispanic sociocultural characteristics need to be taken into account in the application of explanations derived from other populations.

In Elliott and associates' analyses, the ISC factors have remarkably similar effects on delinquency and drug use, which is also the case with the PRAS data, but there is no one-to-one correspondence in the path coefficients of factor effects on delinquency and drug use. In previous analyses, Rodriguez and Weisburd (1991) applied the ISC model to delinquency among the PRAS sample. Their analysis tested and partially verified the proposition that the sociocultural character of this population would lead to a stronger effect of family and direct effects of family and school factors on delinquency. Columns 4 and 5 of table 3 summarize the results of applying the ISC factors to delinquency in the PRAS and NYS samples. In the results shown in table 3, age was added to the model, whereas Rodriguez and Weisburd's earlier analysis exactly replicated Elliott and colleagues' model.

The results showed the divergent effects of the ISC factors in the two samples, but also showed within-sample similarities with respect to the ISC factors' effects on drug use and delinquency. Interestingly, the inclusion of age in the regressions significantly improved the predictive power of the ISC model and strengthened the roles of family and school bonding as direct influences on delinquency and drug use among Puerto Ricans, thus accentuating the differences between the factors' operation in the PRAS and NYS samples. An interesting finding was the effect of age on delinquency and drug use. Age had a negative effect on delinquency and a positive effect on drug use. The findings are in line with previous findings on the modal ages of involvement with delinquency and drug use, which indicate that delinquent involvement precedes drug use (Kandel 1978).

Interrelationships Between Acculturation and ISC Factors in Explanations of Puerto Rican Drug Use and Delinquency

The authors' model attributes direct and strong effects to the family and peer influence variables drawn from Elliott and coworkers' ISC theory (1985). However, we expected acculturation (or biculturalism) to have strong but indirect effects on family, school, and delinquent peer bonding.

To test this, the authors added Wave 1 acculturation as an endogenous variable to Elliott and coworkers' full ISC model (figure 1). Acculturation was hypothesized to influence drug use and delinquency through its effects on the family, school, peer, and deviant attitude measures. Table 4 shows results from the first path equation, adding acculturation to the ISC factors. Acculturation had indirect effects on drug use on factors related to conventional and deviant peer bonding. In intermediate path results not shown in the table, acculturation had significant effects on family involvement and involvement with peers who are deviant. (Figure 2 illustrates all significant paths in the drug use regressions.) The direction of effects was as expected. For example, acculturated youth were less involved with their families and were more involved with deviant peers. However, two unexpected findings are underscored in the final path results shown in table 4. First, acculturation also had strong direct effects on drug use. Second, the direct effects of acculturation applied only to drug use, not to delinquency. Our analysis did not substantiate the predicted effects for biculturalism, the measure of which did not have significant effects on either delinquency or drug use. The predicted indirect effects were also not borne out. Bicultural youth were less bonded than monocultural youth to school and family and were more bonded to deviant peers.

DISCUSSION

The analyses reported in this chapter address the broad question of how to integrate mainstream and subcultural explanations of drug use and other problem behaviors. Concretely, these analyses examined the applicability of the ISC model to inner-city Puerto Rican youth and determined whether the model can be extended by ascertaining its factors' interrelations with acculturation and biculturalism. Generally, the ISC model developed by Elliott and associates is applicable to Puerto Rican drug use and delinquency. Both studies converge on showing direct effects of prior drug use, tolerance of deviance, and peer involvement on delinquency and drug use. However, the Puerto Rican findings provide support for the predictions based on prior ethnicity and inner-city research. Consistent with the importance of family in Puerto Rican culture, family involvement had significant direct effects. In addition, the data confirm the prediction that school factors would also have direct effects on drug use, based on the assumption that family, school, and peers are more distinct from each other in inner-city environments than they are in white, middle-class communities.

Examining delinquency and drug use in each sample provided some insights into the complex issue of the causation involved with both types of behaviors. In the NYS sample , the ISC factors operate uniformly on both behaviors. More differences are evident in the PRAS sample, with our subcultural predictions more appropriate to drug use than to delinquency. However, Rodriguez and

TABLE 4. *Extended ISC model applied to drug use and delinquency; PRAS full-model unstandardized ordinary least-squares estimates*

Variable	Drug Use	Delinquency
Hard-core drug use 1	3.627*	—
Delinquency 1	—	.342*
Involved with deviant peers 2	.350*	.022*
Attitudes toward deviance 2	-.901***	-.092
Family normlessness 1	-.158	-.020
School normlessness 1	.169	.062
Family involvement 2	-.502	-.119*
School involvement 2	-1.111*	-.097**
Family strain 1	.060	-.027
School strain 1	.092	-.023
Age	4.003*	-.348*
Acculturation	.038*	-.001
R-square	.26	.37

*p<.001; **p<.01; ***p<.05

colleagues (1990) found more disparate results in the PRAS sample when they examined specific types of delinquent offenses.

In interpreting the analysis results, some limitations of the data should be kept in mind. The few Time-1 drugs asked about somewhat constrains the generalizability of results. As in many self-report surveys, there may be underreporting of drug use, a fact that probably affected the proportion of variance explained in both data sets. The restriction of the PRAS data to males also limits comparison of results with the NYS sample. Nonetheless, these limitations are offset by the opportunity the data provide to compare the etiology of drug use between an important minority group and a national sample.

The findings confirm the important role that has been theorized for acculturation in Hispanic problem behavior (Anderson and Rodriguez 1984; Szapocznik and Kurtines 1980; Szapocznik et al. 1980) and in the behavior of other minority groups (Beauvais et al. 1987; Oetting et al. 1988). Because many may find the link between deviance and acculturation to U.S. society to be counterintuitive, the findings also lend credence to the notion that adherence to traditional Hispanic culture provides protection against dysfunctional behavior. However, the lack of direct effects with respect to delinquency shows some limitations in the explanatory power of acculturation. Acculturation concerns the extent to

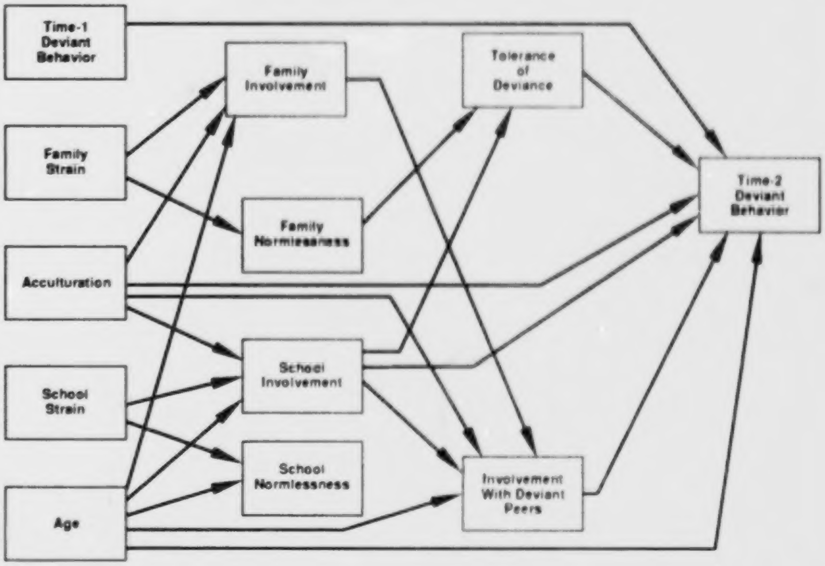
Time-1 Deviant Behavior
Family Strain
Acculturation
School Strain
Age
Family Involvement
Family Normlessness
School Involvement
School Normlessness
Tolerance of Deviance
Involvement With Deviant Peers
Time-2 Deviant Behavior

FIGURE 2. *Extended path model of drug use significant path models in PRAS data*

which a person can resolve dilemmas of self-identity. Drug use may involve the expression of internal conflicts or psychic dilemmas more than delinquency, many of whose behaviors involve instrumental aims. Thus, there may be a greater psychological link between acculturation and drug use than with respect to delinquency.

It is also of particular interest that this analysis finds no attenuating effect of biculturalism on deviance. This is in contrast to Szapocznik and associates' assertions (1980) concerning adjustment among Cuban adolescents. However, they focused on a different problem behavior and examined a majority first-generation population, whereas this sample is primarily second generation, which may have had an effect on the saliency of acculturation as a problem behavior-related issue. Discrepant findings in this area call for more sensitive measures of acculturation and biculturalism (Rogler et al. 1991).

The findings support the theoretical strategy guiding the authors' analysis of Hispanic drug use and delinquency. Results indicate that theories such as the ISC model are applicable to minority groups' experiences. At the same time, subcultural concepts that emerge from minority groups' sociocultural experiences are also useful and can enhance mainstream models. Thus, the results suggest the utility of examining minority youth deviance within mainstream conceptual frameworks and extending these frameworks by integrating them with concepts relevant to the sociocultural reality of minority groups.

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Orthogonal Cultural Identification: Theoretical Links Between Cultural Identification and Substance Use

E.R. Oetting

INTRODUCTION

Success within a culture brings many benefits. Some of these advantages are defined in terms of cultural values, such as money, rank, property, control, or admiration. Other benefits from cultural success may be more fundamental, such as greater opportunities to have and raise children or even the possibility of a longer lifespan. The consequences of cultural failure can be devastating. Navarro (1991), for example, points out that people with less education and lower incomes, markers for cultural success in U.S. society, die from heart attacks and cerebrovascular disease far more often than their upper-class counterparts. Culturally marginal individuals lack influence and interpersonal regard within their cultural contexts, and their social environments usually present few rewards. They must turn elsewhere to find an involvement in life or to find satisfaction and enjoyment in living and are more likely to engage in deviant and destructive behaviors.

The use of psychoactive substances is found in essentially all cultures and provides examples illustrating how cultural identification may be related to behavior. The first part of this chapter presents a general model for cultural identification. It shows how successful identification is maintained and how it relates to subcultures and to the culturally appropriate use of psychoactive substances. The next part discusses how cultural identification breaks down and how this failure can encourage illicit or culturally inappropriate substance use. The final section of the chapter explains how orthogonal cultural identification theory differs from typical models and considers implications for minority youth. Although the principles presented here would apply to any minority group existing within a dominant majority culture, at the request of the editor the examples that are used involve American Indians because they are considered in only one other chapter in this volume.

CULTURAL IDENTIFICATION

Cultural identification, a personality trait, is a persistent, long-term underlying characteristic that organizes cognitions, emotions, and behaviors. Those with high identification with a culture perceive themselves as adapted or adjusted to that culture. They see themselves as involved in the culture and as capable and competent within it. The person with high cultural identification is more likely to see events from the perspective of that culture, will make evaluative judgments about people and events that are based on cultural beliefs and values, will choose behaviors that are culturally congruent, and will be successful in cultural activities.

Cultural identification, like other personality traits, develops and is maintained through interactions with the environment, in this case, the cultural environment. Figure 1 is a general model illustrating how cultural identification is maintained. The model may appear anfractuous, but once examined critically, it is straightforward and logical. It shows that both the individual and the culture have needs or demands that must be met by the other. To the extent that those needs are met, both the culture and the individual will thrive. Figure 2, presents the same model, but defines what occurs when there are problems that lead to the decline of cultural identification. Comparing the two figures may clarify how the model works.[1]

The model in figure 1 illustrates the relationship between culture and the individual. "Culture" is listed at the bottom of the model and "Person" at the top. The diagram shows how they interact. Throughout this discussion, the term "culture" is reified, distorting to some extent its meaning. To understand cultural identification, however, it is necessary to discuss how culture and the person interact. This interaction occurs through cultural activities, and nearly all activities involve other people. Those people act individually and collectively. They provide the opportunity for cultural interchange and activities, assess the person's behavior, make judgments about it based on cultural criteria, and respond accordingly, providing reinforcement or punishment. In this way, the culture serves as the equivalent of a functional organism and to simplify descriptions, it is treated as such throughout this chapter.

Figure 1 shows that all cultural activities have two components: (1) cultural demands that require certain actions or behaviors from participants and (2) cultural responses, how the culture reacts when people participate in cultural activities. The person must interact with the culture to meet these cultural demands. "Person," therefore, is placed at the top of the diagram, where cultural identification is shown as one facet of the personality. The figure shows that cultural identification has two components that are involved with the interaction with the culture: culture-related actions, the behaviors that occur in cultural contexts, and culture-related needs, personal requirements that are met through cultural involvement.

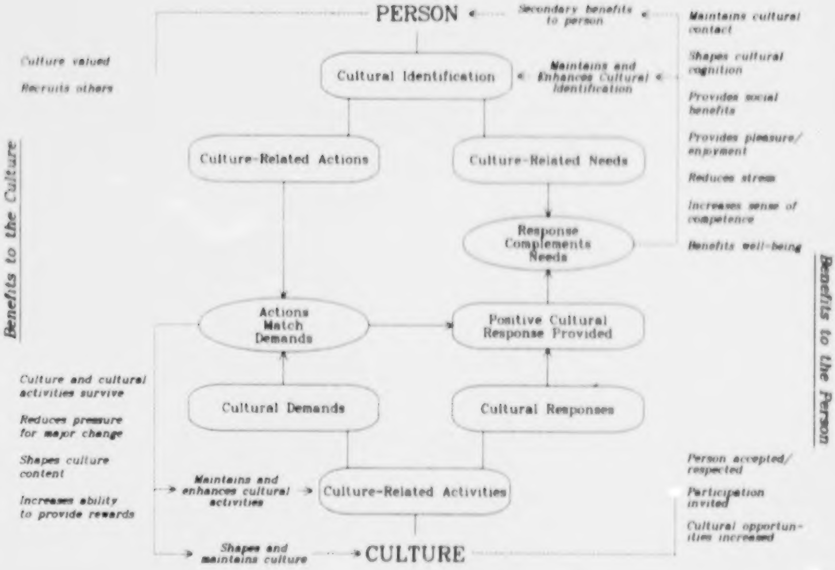
PERSON
Secondary benefits to person
Maintains cultural contact
Shapes cultural cognition
Provides social benefits
Provides pleasure/ enjoyment
Reduces stress
Increases sense of competence
Benefits well-being
Culture valued
Recruits others
Cultural Identification
Maintains and Enhances Cultural Identification
Benefits to the Culture
Culture-Related Actions
Culture-Related Needs
Response Complements Needs
Actions Match Demands
Positive Cultural Response Provided
Benefits to the Person
Culture and cultural activities survive
Reduces pressure for major change
Shapes culture content
Increases ability to provide rewards
Cultural Demands
Cultural Responses
Maintains and enhances cultural activities
Culture-Related Activities
Person accepted/ respected
Participation invited
Cultural opportunities increased
Shapes and maintains culture
CULTURE

FIGURE 1. *Maintenance of cultural identification*

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Step 1: Culture presents demands. Cultural demands are requirements made of people when they interact in specific cultural contexts. These requirements run the entire gamut of cultural content. Examples include using language appropriately; expressing the "right" cultural attitudes; using gender-appropriate gestures; playing defined roles in ceremonies; or engaging in culturally approved child care, work, or play.

Step 2: Actions respond to demands. Culture-related actions are designed to meet these cultural demands and include nearly every behavior that occurs within or in relation to social contexts, for example, speech, dress, posture, attention, walking, dancing, typing, driving, painting, and elimination.

Step 3: Culture responds to the person's actions. The culture evaluates whether these actions meet cultural requirements and responds accordingly. Cultural responses can be simple verbal and nonverbal communications. They can include objects such as money or clothing, symbols such as rank or a marriage tattoo, or actions. The essential element is that, when the person behaves in ways that meet cultural demands, the culture responds in ways that the culture views as positive.

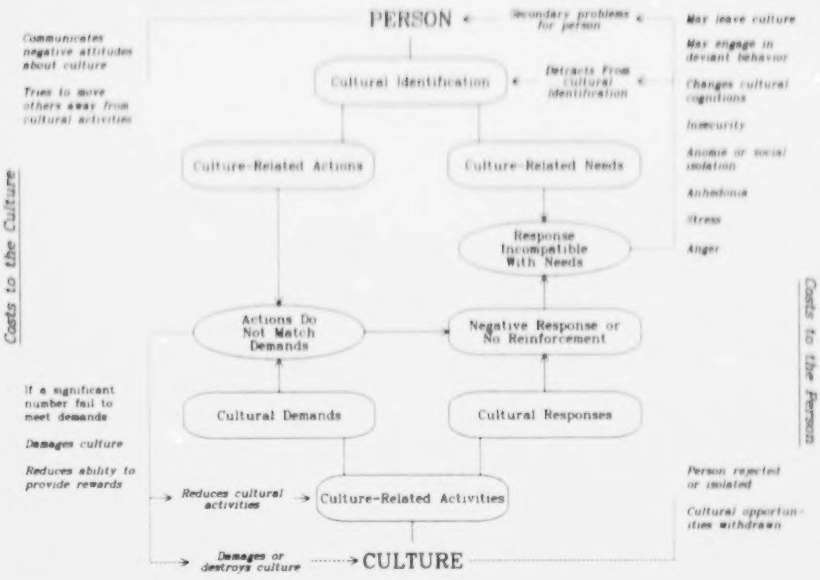
PERSON
Secondary problems for person
May leave culture
May engage in deviant behavior
Communicates negative attitudes about culture
Tries to move others away from cultural activities
Cultural Identification
Detracts From Cultural Identification
Changes cultural cognitions
Insecurity
Anomie or social isolation
Anhedonia
Stress
Anger
Culture-Related Actions
Culture-Related Needs
Costs to the Culture
Response Incompatible With Needs
Costs to the Person
Actions Do Not Match Demands
Negative Response or No Reinforcement
If a significant number fail to meet demands
Damages culture
Reduces ability to provide rewards
Cultural Demands
Cultural Responses
Person rejected or isolated
Cultural opportunities withdrawn
Reduces cultural activities
Culture-Related Activities
Damages or destroys culture
CULTURE

FIGURE 2. *Decline of cultural identification*

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Step 4: Needs are met through culture's responses. For a cultural response to be truly reinforcing, it must meet the cultural needs of the person. Culture-related needs can be as fundamental as the need for food, water, shelter, and social exchange or as peripheral as the desire for a new pair of designer jeans. All these needs, even the most basic ones, are met in today's world through cultural interactions. The culture provides the context in which these needs are met.

An example may help to illustrate how the model works. The culture first provides an activity, such as a visit with a neighbor. The interaction presents cultural demands (i.e., the neighbor expects certain behaviors in this situation). Those might be friendliness, low emotional intensity, general agreement with ideas, or attentive listening. When the person engages in appropriate culture-related actions—talking, smiling, providing information, listening, gesturing—the neighbor finds the behaviors appropriate and responds with expected behaviors in return. Each thereby meets the other's cultural needs. Both are satisfied with the exchange and feel good about it. Both will seek further visits.

This interaction may appear to be a minor one, but this type of social intercourse is a primary building block of cultural identification, important in all cultures but extremely important in some. In some cultures, for instance, in desert communities, more than 4 hours of an average day are spent visiting with neighbors. The talking, gossiping, and exchange of ideas help ensure conformity, that neighbors become culturally compatible. The exchanges also include, for example, large amounts of cultural information, data on "proper" attitudes and beliefs, treatment of common ailments, and potential solutions to household, work, or child-raising problems. This content is incorporated into cultural identification and shapes and alters subsequent behaviors.

Most culture-related responses occur in contexts with other people, but it is not essential for others to be present. Reading, for example, involves only an implicit cultural interaction between the author and the reader, but it is nevertheless a cultural activity. The book serves as a cultural response. The author's ideas and concepts are filtered through the reader's cultural cognitions. The results may or may not meet the reader's needs and can support, contradict, or add new cultural constructs and ideas. Other media—radio, television, records—provide the same kind of cultural interactions.

Benefits From Cultural Identification to the Person

The right side of the model in figure 1 lists the major effects on the person that occur when the culture's responses do meet the individual's needs. The primary effect of a match between needs and cultural responses is that the individual develops or maintains a high level of cultural identification, ensuring that the person remains within the culture and stays active. Retention within the culture is one of the most important results of reinforcement. It provides for continuing the successful interaction between culture and the individual. The immediate benefit of this continuing cultural interaction is that the person's needs are met—needs that run the gamut from basic human requirements to the most peripheral and shallow wants and desires, from concrete and specific objects to abstract principles and ideals. The cultural response serves as a reinforcer, shaping and maintaining the behavior, and is usually perceived as pleasant and enjoyable. The net effect is likely to include a sense of competence and an increase in life satisfaction.

At the most basic level, the match between cultural response and needs may simply involve meeting the individual's expectations for particular responses. The needs for cultural security and stability are often high priorities, and getting the expected response for a particular behavior is comforting and reinforcing. The environment becomes predictable and safe.

Benefits to the Culture

Whereas the right side of the diagram in figure 1 deals with rewards and benefits to the individual, the left side focuses on the benefits to the culture. Cultural demands always include those that allow the culture to survive, which occurs primarily through meeting people's needs. When needs are met, the culture is likely to increase in value to that person. Positive feelings encourage involvement in cultural activities, allowing the culture to meet the needs of other members. The rewarded person is also likely to recruit others into cultural activities. Through individuals' increased participation, the culture gains in the ability to provide reinforcement and reward for all members.

SUBSTANCE USE AS AN ELEMENT IN CULTURAL IDENTIFICATION

Caffeine is a psychoactive substance, and across the world, coffee and tea are perhaps the most commonly used "drugs." They exemplify culturally appropriate substance use. They are such an integral part of social interchange in some cultures that their use has become synonymous with social intercourse; "Let's have coffee" actually means "Let's have a conversation." These substances also provide a useful example of the power of cultural acceptance. To those who use coffee or tea, it seems vaguely ridiculous that there were historical periods when their use was viewed as "sinful" and that some cultures still proscribe them. The widespread use of coffee and tea as social lubricators shows that a high leve of cultural identification can virtually require involvement with psychoactive substances.

Caffeine is probably among the least damaging psychoactive substances, so cultural acceptance may seem reasonable. But tobacco is clearly an addictive and, in the long term, deadly drug. Yet in much of the world, smoking is still culturally accepted and is often an integral part of almost every conversation, particularly among men. The model for maintenance of cultural identification in figure 1 applies to tobacco use. There will be cultural demands centering around use, and meeting those demands will require use of the tobacco and skill in the accompanying "rituals" or patterns of use.

A high level of cultural identification would ordinarily be an asset to the individual, but when smoking is culturally appropriate, people with high levels of cultural identification will be more likely to use tobacco. Among the cultures where this is still occurring are many American Indian tribes. In recent years there has been a societal shift in the United States toward intolerance of tobacco use, and use is declining among American youth in general (Johnston et al. 1989). However, this decline is not occurring among American Indian youth. Cigarette use by reservation youth is still much higher than that of other youth (Beauvais et al. 1989), although rates may differ greatly across reservations. On one reservation, for instance, nearly every adult smokes, and 89 percent of the 9th through 12th graders are already smoking. In contrast, on another reservation, only 26 percent of the youth of that age smoke (current data from Tri-Ethnic Center files at Colorado State University).

The use of alcohol is also culturally appropriate within many groups and occurs in many contexts. Each group and social context has its own cultural requirements for using alcohol, and the person who meets those requirements is reinforced for the behavior. American Indians are like other Americans; every tribe has certain general expectations about alcohol use, and within each tribe are subcultures that have different patterns of use. However, there are patterns that occur frequently. One of these patterns is binge drinking, mentioned early by Levy and Kunitz (1974), but still a frequent pattern among American Indian drinkers. American Indian youth, for example, use alcohol less frequently than other youth, but get drunk more often (Oetting et al. 1989). There are historical factors that may have encouraged this type of drinking. For example, Federal and tribal prohibition laws that made it difficult to obtain or keep alcohol meant that alcohol was available only occasionally, and when available, there was likely to be a large amount, providing an occasion for a "party." A general tendency to "share," common to many American Indian cultures, may have helped encourage this pattern.

The major point of this discussion is that there are cultural demands for substance use and that the culture will reinforce culturally appropriate substance use, whether or not that is good for the individual. A high level of cultural identification is usually an asset to the person, but when substance use is culturally required, high identification can lead to potentially damaging consequences. Alcohol and tobacco present serious health risks for American Indians, and there is at least indirect evidence that the use of these two substances is determined, in part, by cultural requirements or demands. Tolerance for tobacco use and for binge drinking are both declining in the rest of American society, and as tolerance declines, cultural activities that require these behaviors are decreasing as well, at least in some subcultures. However, there is little evidence as yet that those changes are occurring among American Indians who live on reservations. There are many American Indians who are doing their best to alter these patterns of behavior, but they do not seem to be reaching the groups that actually engage in the behaviors.

Feedback: Maintenance of the System

Minor problems in adjustment between the culture and the person occur constantly and are a normal part of the adaptation of both the culture and the person. Nobody exists in a continual state of perfect rapport with his or her culture. People test limits, get confused, construct inaccurate cognitions, deviate from cultural norms, try new roles, and grow and change. Culture alters: Ecologies shift, environmental pressures force new compromises, resources are lost and gained, and norms and values change. However, feedback provides a mechanism that can successfully carry the individual and the culture through these changes. When the person's responses only partially meet cultural needs or the culture's responses fail to completely meet the individual's needs, cultural cognitions provide hypotheses about what needs to be done.

In their attempts to organize and make sense of the world and their place in it, people form cognitions about their behaviors and their culture; they develop cognitive frameworks to "explain" the perceived connections between their behavior and the culture's response to that behavior. The resulting ideas and beliefs become that individual's view of his or her culture and its content. These cognitions also form a substrate that helps determine cultural needs. When people's beliefs and ideas about how their culture will respond to their actions are confirmed, a need for cultural consistency is met; people are made to feel that they "understand" their culture. The cognitions are reinforced and become a major element in cultural identification.

Behaviors, responses, needs, and cognitions can all change through feedback to modify the system and bring it back into adjustment. When there is a strong culture and high levels of cultural identification exist, there is likely to be a considerable congruence in perception and cognition, and the adjustments are likely to be small and to occur quickly. Figure 2 is a general model of the decline of cultural identification. Problems can occur anywhere in the model. If the problem eventually leads to a serious mismatch, either between cultural demands and actions or between needs and cultural responses, cultural identification will suffer, and ultimately, if enough people lose cultural identification, the culture will be damaged as well.

FAILURES IN CULTURAL IDENTIFICATION

As long as the culture and the person are reasonably healthy, the interactions between culture and the individual are mutually supportive. People tend to shape a culture that can meet their needs, and the culture tends to shape needs that it can meet. However, a serious breakdown anywhere in the system will lead to problems and, if not repaired, will lead eventually to a chronically damaged interaction that fails to meet personal needs or to a dissolution of the link between the individual and the culture.

Failure To Match Actions With Demands

A description of a breakdown in the system will illustrate how cultural identification can be damaged and how the effects ripple outward from that problem. Suppose that an individual is either unwilling or unable to meet the culture's demands. An example might be a serious behavioral offense, for example, violation of a strong taboo. In most societies that violation might be murder, rape, or another serious criminal act. Although the deviant act may meet personal needs or even meet the needs of a criminal gang, in most of our society the behavior does not match with the demands of the larger culture. If the violator is caught, the person's actions have clearly failed to meet cultural demands, and the cultural response will be rejection, isolation, or in this case, imprisonment or execution.

Most cultures operate on the assumption that punishment will lead to change, and there is some hope that feedback can lead to change and to emergence of behaviors that are culturally appropriate. If that should happen, the model for maintenance of cultural identification could be reinstated. But in this case, there is a good chance that a downward cycle will be established instead.

When the culture punishes, fails to reinforce, or otherwise does not meet the individual's cultural needs, the result is likely to be unpleasant for the person involved. The right side of the model in figure 2 lists some of the resulting effects on the person. Stress increases, and the lack of rewards probably leads to a general state of unhappiness and perhaps anger. The person is in conflict with the culture, reducing cultural identification and increasing involvement with culturally deviant subgroups, thereby increasing the chances for further culturally deviant behaviors.

Failure of Cultural Responses To Meet Needs

When the culture loses resources, it may lose the ability to meet people's needs, even if they behave in culturally appropriate ways. For example, people are a primary cultural resource. If a tribe is losing its members through disease or emigration or a rural community is losing its population to the cities, or young people are losing interest in being initiated into a clan, there will not be people to meet the cultural needs of the remaining members. A culture can also lose its ability to provide appropriate cultural responses through loss of other resources. Social disorganization may prevent recognition of ability or promotion in status. Knowledge may be lost. Folk medicine, myths, and legends fade from memory. Traditional skills may no longer be taught and may disappear.

The costs to the individual who has needs that are no longer being met through these cultural activities are very real. Social benefits and pleasure and enjoyment of life decline. There is no opportunity to practice cultural competencies, and the sense of competence decays. With lack of reinforcement, it is hard to maintain cultural cognitions. Cultural identification suffers, with problems showing up in many different ways. The person may leave or develop negative attitudes about the culture.

To try to maintain some ability of the culture to meet their needs, the remaining members of the group may pull more closely together and isolate themselves from the larger culture. They may insist on the integrity and truth of their beliefs and values even though they have little opportunity to practice the related behaviors. Because the culture does not have resources and can offer little reinforcement, it has little or no ability to recruit new members who could rebuild the culture. Unhappiness and loss may exacerbate the problem, because others who show any identification with an alternative culture may be driven away.

These examples show that failure in cultural identification can be rooted in either the individual or in the culture. The model in figure 2 shows that a failure anywhere in the model will eventually have the same effect, a decline in cultural identification and a loss to the culture. Generally, it is the individual who suffers. The culture involves many people and is a self-maintaining structure that resists damage much better than an individual can.

But cultures can and do fail. A strong culture consists of many people, long traditions, interlocking activities, and even physical structures that shape behaviors and attitudes. But when its people fail in cultural identification, the culture must eventually fail. A culture at its peak may appear to be so strong that it is unassailable, but almost every human culture that existed prior to the past century has either disappeared or changed so radically that its adherents would no longer recognize it. Paradoxically, there may be more identifiable and distinctively different human subcultures today than have existed in all human history.

CULTURE AND SUBCULTURES

"Culture" is a term that has been used to refer to a wide range of social concepts, contexts, and constructs. It is possible to speak of ethnicity as culture, of a national culture, of the culture of religion, of the drug culture, or even of the culture of a specific marriage. Most often the term is used to describe the customs, beliefs, social structure, and activities of any group of people who share a common identification and who would label themselves as members of that group. An examination suggests that these various cultures then form a hierarchy, ranging from very large nationality or racial groups to small subcultures consisting of only a few people.

At the most general system level are broadly defined, large, amorphous groups of people that the individual believes share certain of his or her general characteristics and/or beliefs. These macrocultures would include, for example, American Indians, Muslims, or Canadians. Within these broad *glosses*, but still at the macrolevel, are more specific cultures that are somewhat more narrowly defined, for instance, Apaches, Shiite Muslims, or French Canadians. It is a definitional characteristic of these macrolevel cultures that it is impossible for any person to meet and interact with even a modest proportion of those who share that cultural identity.

At a lower system level are even more narrowly conceived ethnic, religious, or other identities, along with associational groups such as clans, moieties, schools, professions, clubs, and street gangs. Identification can be high with any of these broadly defined cultural or associational groups. Even smaller groups may exist within these structures; for example, heroin users may form a subculture within the larger context of a barrio youth gang. Although it is stretching the classic meaning of culture to include very small groups and dyads, the logical continuum would continue on to include microcultures—primary groups such as families or peer clusters.

Any of these groups could be viewed as a culture, having its own culture-related activities, demands, and responses, and the model of cultural identification would fit with a minimum of translation. However, it is probably more useful to limit the term "culture" to the macrolevel, relating to ethnicity, race, nationality, or broad religious identifications and to use the term "subculture" to describe groups that share a reasonably apparent set of mores, traditions, and beliefs, including institutions, associational groups, and the major primary groups.

Macrolevel Cultural Identification

Cultural identification tends to develop in direct interaction with the people who are involved in various subcultures. The person becomes like those people he or she is interacting with. But no person can experience interactions with a meaningful proportion of the people of his or her ethnicity or nationality. Therefore, macrolevel cultural identifications such as ethnic or religious identification are abstract attributions of cultural content. This means that an individual's cultural identification may have little to do with the behaviors and traits of the large mass of people who are members of a nationality or ethnic group. Instead, it is that person's beliefs about those traits that determine the content of cultural identification, beliefs that are learned through the major socialization links—family, friends, teachers, media, acquaintances, and others in the person's immediate environment. However, the cultural cognitions learned in these interactions are incorporated into cultural identification with the larger ethnic group. The individual usually attributes to this larger group mythic qualities that meet some idealized cultural image, an image that was learned in the close confines of that person's primary relationships.

A person is likely to become involved in subcultures that include the same general kinds of people and that are all part of the same macroculture. This means that the individual encounters essentially the same attitudes and beliefs in nearly every social context he or she experiences. When that happens, the person is likely to begin to feel that these values are independent of social context and are, therefore, fundamental "truths." The person may be willing to sacrifice life itself to meet these idealized perceived cultural demands. An example would be the Japanese kamikaze pilots of World War II, the "falling flowers" who chose to sacrifice their lives for their country.

Although most behaviors are in response to immediate subculture requirements, macrolevel cultural identifications are highly important for understanding people. They involve cultural cognitions that the person carries across subcultures, that are not limited to one or two subcultures, and that will therefore relate to behaviors and attitudes that are consistent and persistent across different situations. These consistencies help individuals adapt to other subcultures within their own macroframework, because they are likely to be congruent with the requirements of those cultures. Unfortunately, it is also these beliefs that create blind spots, preventing someone from seeing that another culture holds different ideas and that those ideas may have validity. This becomes a particular problem when the people of one culture hold power over the people of another, because the power holders are likely to righteously impose these perceived "truths" on the minority culture.

Nested Subcultures

An individual will have a series of cultural and subcultural identifications. These will not be separated from each other in early life, because the young child has, essentially, only one culture—that of the family. As the person's social horizons expand through life, however, differential identification with different subcultures will occur. Many of the subcultures the person will identify with will be located within broadly defined cultures and can even be seen to be specific parts of those cultures. The values and belief systems within these nested subcultures are likely to be reasonably congruent with each other and with the macroculture. However, the cultural demands of subcultures will differ, so an individual may be able to meet the requirements of some subcultures and not of others.

There also will be other subcultures that exist in association with a larger culture that espouse values and make behavioral demands that are incongruent with those of the larger culture and with most other subcultures that are nested within that culture. Usually, if these subcultures exist continuously over an extended period, a careful analysis will show that, despite their apparent inconsistency, they play a functional role in the larger social ecology. They meet the needs of a significantly large group of people, needs that the culture and other subcultures are not meeting.

An understanding of how culture relates to behavior must take these complicated and interlocking identifications into account. Except for members of very small primitive tribes, any individual will be identified with several different cultures and subcultures. For example, the male student at a residential American Indian community college who is also a "cowboy" would likely behave differently in the two subcultures. This student might be highly successful within American Indian culture and would, therefore, have a high level of American Indian identification. But trying to predict alcohol consumption simply from that macrolevel American Indian identification without taking into account identification with these two subcultures would lead to erroneous results because the student might behave entirely differently in the two contexts. Virtually all American Indian community colleges have a strong standard against using alcohol while in residence and studying. During the week, cultural requirements would demand that this student be industrious, responsible, and stay sober, and many students follow these guidelines. However, when he competes at a weekend rodeo, the cultural demands of some cowboy groups would suggest that he be wild, somewhat irresponsible, and drink heavily. Even this picture would be incomplete. Although there are youth who would behave in this pattern, there are "recovering" cowboys who would not touch alcohol and American Indian students who use alcohol while on campus.

When people cannot meet their needs in one subculture, they will seek another where their needs can be met. School is likely to be a highly important subculture. For young people, the school subculture may provide many opportunities to fail. Students may have language problems or an attention disorder, be rebellious or hostile, or have personal problems that prevent them from meeting the cultural requirements of the school. Figure 3 shows what happens to American Indian youth who do not develop a successful identification with the school culture. The lower the school identification, the more likely they are to develop peer drug associations and to have friends who use drugs and who would not stop them from using drugs. These drug-using peer clusters probably provide an alternative subculture where the youth can meet his or her needs, needs that the school failed to meet.

A large and complex culture may have hundreds or even thousands of subcultures; therefore, failure in one of these cultures may not mean failure in the larger cultural context. The dropout may find an alternate method for meeting the larger culture's demand for an education, for example, by alternative school or general equivalency diploma, or may seek another

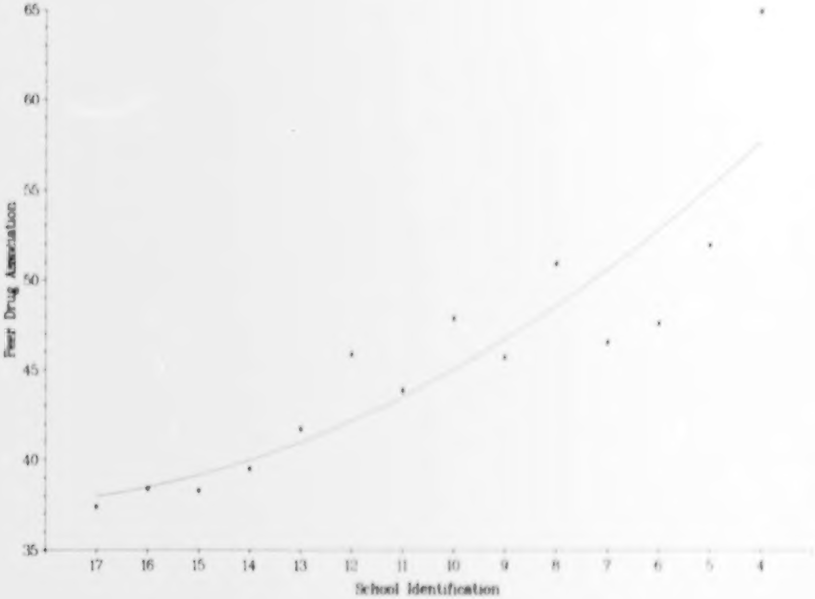

FIGURE 3. *Relationship between school identification and peer drug association*

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subculture where needs can be met. The ultimate result may be beneficial or damaging. There are many dropouts who play successful roles in society. Unfortunately, there are also many dropouts in prison.

Transitions Across Subcultures

When moving from one subculture to another, the individual rapidly assesses the nature of the subculture and its requirements and shifts behaviors and attitudes accordingly. When dealing with familiar subcultures, these transitions take place smoothly and without any particular effort or even awareness that a change has occurred, and this change takes place even though requirements of different subcultures are inconsistent. The ability to move from one subculture to another with ease, despite inconsistencies, is readily accepted. However, with regard to macrocultures, there has been a continuing belief that the transitions must be difficult. This has led to a series of models that have attempted to deal with transitions between macrocultures. The following section considers some of these models.

MODELS OF CULTURAL IDENTIFICATION

Much of the interest in macrolevel cultural identification has focused on the problems of minority populations trying to exist in and adapt to a majority culture. Several different models have tried to describe this adjustment. Figure 4 diagrams some of these models, using U.S. minority groups as examples. The diagrams may inappropriately simplify some of these theories, but they illustrate graphically the contrasts between the positions. This figure and a further discussion of the models appear in a previous article by Oetting and Beauvais (1990-91).

Dominant Majority Model

At the upper left in figure 4 is the dominant majority model, which places the majority culture in a positive position and sees minorities as adapting to and ultimately being incorporated into the "good" and "right" culture. Although this is an ethnocentric, value-laden, and prejudiced position, it is one that has been prevalent, particularly earlier in this century. For example, the American Indian youth who was trapped in a Bureau of Indian Affairs (BIA) boarding school 25 years ago would have had no option but to behave in accordance with the dominant majority model. In the original charters for BIA schools, it was made explicit that American Indian children were to be taught the English language and were to replace their own legends with stories about Abraham Lincoln and George Washington. One American Indian woman recalls that when she was 7 years old, she was forced to kneel on the hot air vent for 20 minutes every morning because she kept using the Navajo word for "toothbrush." American Indian children in the boarding school were living in a "dominant majority" world, and they failed to learn its lessons at their peril.

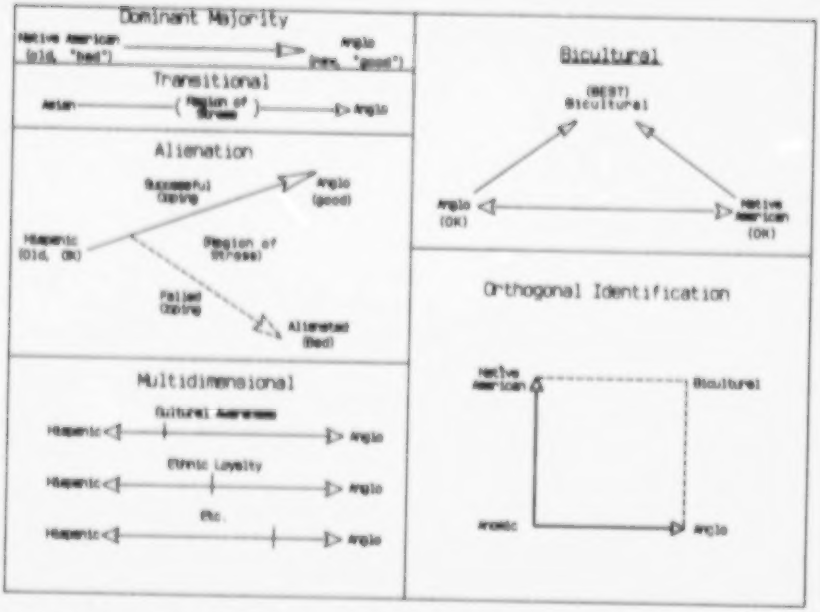
Dominant Majority
Native American (old, "bad")
Anglo (new, "good")
Transitional
Asian
(Region of Stress)
Anglo
Alienation
Successful Coping
Anglo (good)
Hispanic (Old, OK)
(Region of Stress)
Failed Coping
Alienated (Bad)
Multidimensional
Cultural Awareness
Hispanic
Anglo
Ethnic Loyalty
Hispanic
Anglo
Etc.
Hispanic
Anglo
Bicultural
(BEST) Bicultural
Anglo (OK)
Native American (OK)
Orthogonal Identification
Native American
Bicultural
Anomic
Anglo

FIGURE 4. *Models of minority populations within majority culture*

SOURCE: Oetting and Beauvais 1990-91, p. 659, reprinted by courtesy of Marcel Dekker, Inc.

Transitional Models

In transitional theories, the minority culture is more likely to be viewed as valuable and positive, but cultural identification will, nevertheless, be lost, and the person will eventually be incorporated into the majority culture. The model assumes that people in transition will have problems because they are caught between the old and the new cultures and therefore are faced with value and behavioral conflicts. Theories that "explain" drug use in minority populations by acculturation stress often assume that movement from the old to the new will always be difficult and are based, at least implicitly, on a transitional model.

Alienation Models

The alienation model, the third one down in figure 4, is an expanded transitional model that assumes that there will be movement toward the majority culture but does not assume that problems will always be encountered. Graves (1967) has pointed out that some people can operate effectively while in transition, whereas others cannot. Both transitional and alienation models assume that movement or adaptation to the new culture must take place. They do not consider the possibility of a continuing multicultural adaptation. However, these theories are likely to provide a reasonably accurate description of what occurs when an individual or a family is permanently displaced, isolated in a foreign community, and must learn to exist in another culture. Because a significant minority community is not available to them, they will be unable to maintain their identification with the old culture; it is not available and cannot provide opportunities for cultural exchanges or cultural rewards. Those who can cope and can meet the requirements of the new culture will be reinforced and will develop a new cultural identification. Those who cannot will become alienated; they cannot maintain their prior cultural identification, and they cannot develop a new one.

Multidimensional Models

These models also assume that there will be a transition but view it as involving several different dimensions (Olmedo et al. 1978; Olmedo and Padilla 1978). For example, a person could have lost the minority language but still retain a high level of loyalty to the minority group. The multidimensional model assumes that people will be somewhere between the two cultures on each dimension. It does not leave room for the ability to meet the cultural requirements of both cultures, nor does it indicate that people may not be able to meet the requirements of either culture.

Bicultural Models

Bicultural models, sometimes called transcultural models, are illustrated at the top right of figure 4. Unlike the models that place people between cultures, they provide an alternative outcome: becoming involved in a new culture that does not demand relinquishing the old. Ramirez (1984) describes this bicultural or multicultural person as one who has ". . . extensive socialization and life experiences in two or more cultures and participates actively in these cultures . . . the behavior is flexible in the sense that he or she uses different problem solving, coping, human relational, communication and incentive motivational styles" (p. 82). A person who lacks the ability to achieve in either culture is usually not considered in the bicultural model.

Orthogonal Cultural Identification

The diagrams in figure 4 suggest that the first five models share a common element: Two cultures are placed at opposing ends of a continuum. With the exception of the bicultural model, the assumption is that cultures are ipsative, that involvement in one is at the cost of involvement in another. The final model is a simplified diagram that illustrates the theory of orthogonal cultural identification (Oetting and Beauvais 1990-91). It shows that identification with one culture can be independent of identification with any other culture. Instead of being placed in opposition to each other, cultural identification dimensions are at right angles; they are, in principle, uncorrelated. All other models limit the possible patterns of cultural identification that can exist; in most of them, a gain in one culture is offset by a loss in the other. The orthogonal model points out that any combination or pattern of cultural identification is possible. A person may have a single identity, may be bicultural, may have a high identification with one culture and a modest one with another, or may have a weak identification with any culture.

In the orthogonal model, competence or preference for one culture is independent of that for any other culture. Bicultural theory, for example, may ask the following question, "What is your music preference? Only Spanish, Mostly Spanish, Equally Spanish and English, Mostly English, English Only" (Cuellar et al. 1980). Orthogonal theory would require asking about preference for each kind of music independently, so that people could show, for example, that they disliked both kinds of music, liked each moderately, or liked one a lot and the other only a little.

The orthogonal model also indicates that it is the level of cultural identification that is important, not whether people are in transition. If there is a transition in progress, the person can move in any path through the cultural identification space. As identification with one culture increases, identification with another can decrease as the transitional models suggest, but it can also stay the same or even increase. As long as the path of the transition continues to include a reasonably high level of cultural identification with one or more cultures, a transition does not have to be accompanied by stress. As figure 2 shows, however, if there is a loss of overall identification, stress is likely.

The orthogonal model also has a "zero point." Unlike other models, it shows that it is possible to have a low level of identification with any culture. The other models in figure 4 all include an assumption that people start with a high level of cultural identification and move toward another high level of identification. Only in the alienation model is there a path for them to go astray. But not everyone starts with a high level of identification. Although everyone lives in a cultural context, merely living in that context does not mean that the person has a high level of cultural identification.

For example, families can show a continuing pattern of low identification across many generations. Almost every community has marginal families, people who live on the fringes of society. They are rejected by mainstream families, and their children are usually looked down on and viewed with suspicion. They have little or no access to the benefits of their culture. They are not members of important clans, do not hold office, rarely have respected jobs or other productive roles, and may be required to do the "dirty work," the work that is viewed as noxious by others and that nobody else will do. Their potential for deviance is high, including alcohol abuse and crime. They are then viewed as a family of "drunks" and "criminals," providing the culture with a further excuse for continuing the pattern of rejection. Members of this family have a cultural identity; they would label themselves as a member of an ethnic group. They do not, however, have a significant level of cultural identification.

Some of the problems in interpreting the links between cultural identification and substance use of American Indians stem from this issue. It is not uncommon to find that an undue proportion of those American Indians who have become "skid-row" alcoholics use predominantly an American Indian language. Because language has been used as a marker for cultural identification, these alcoholics who speak little English have been assumed to have a high American Indian identification, and the assumption could be made that American Indian identification helps make them susceptible to alcohol abuse. But it is far more likely that these alcoholic American Indians do not have a high cultural identification with either American Indian or non-American Indian culture. They speak little English because they have not been successful in non-American Indian culture, but they probably also have little real involvement with American Indian culture; they are not among those who are clan or tribal leaders and are not admired or respected by other American Indians.

The diagram of orthogonol identification in figure 4 includes two cultures, but additional cultures can be added using additional dimensions. The model is also generalizable to subcultures. A macroculture, such as American Indian, can be listed on the abscissa and a subculture, such as "school," on the ordinate. Two or more subcultures can also be listed, such as "school" and "street gang," and the positions of groups of people can be plotted in the enclosed space. Some positions are more likely to be occupied than others, but the orthogonal model indicates that any pattern is possible.

The fact that cultures or subcultures have opposing values, beliefs, or behavioral requirements does not completely eliminate the possibility that people will be able to espouse any combination of cultural identities. All cultures are already pluralistic and require constant adjustment to dissonant cognitions and behaviors. Cross-cultural adaptation is only a further extension of this adaptation. If the adjustment to one culture prevents meeting the demands of another culture, it can eventually lead to a loss of identification; if not, identification with both systems can remain high.

The orthogonal model provides more options and is capable of incorporating the other models of cultural identification. Why then have so many models placed cultures in opposition to each other in a zero-sum game? Probably because there is an element of historical truth in those models. In the United States, for example, history indicates that minority cultures have often been eliminated or absorbed. In the world scene, separate cultures have existed for hundreds of years as neighbors in opposition, passing on to each new generation a history of mutual prejudice and enmity. To place these cultures in polar opposition would be natural.

Although it is not an essential element of the theory, the orthogonal model at least suggests another possibility: Cultures do not restrain the individual; they present opportunities. The length of the vector from zero, regardless of where it points, indicates the ability of the person to contribute and the ability of the cultures to provide rewards. If individuals could develop tolerance and forgive historical transgressions, if they could be freed to involve themselves in different cultural dimensions, a tolerant and multicultured world might enrich everyone's lives by providing multiple opportunities to give and to receive.

CULTURAL IDENTIFICATION, OTHER PERSONALITY TRAITS, AND DRUG USE

Cultural identification is a melding of participation, success, and satisfaction. It is involved in nearly every interaction that people have with their social environment. Therefore, it is a characteristic that "flavors" nearly every aspect of the personality and is likely to be variously correlated with other traits, some of which may be important for understanding drug use.

Cultural Identification and Self-Esteem

The strong and culturally successful family is able to provide the child with access to the culture's reinforcements and rewards and is therefore better able to develop in the child the ability to meet the culture's demands. The child with these advantages will develop a high level of cultural identification. That identification involves forming accurate cultural perceptions and cognitions and helps the child develop skills that meet cultural demands. When children engage in successful cultural interactions, they develop a belief in their own competence and capability. They have a feeling that they are in control over those parts of their environment that relate to culture. The child will be, and will feel, competent, capable, and proud of his or her accomplishments and will feel reinforced by and in tune with the culture. These abilities and feelings are the essence of self-esteem. Oetting and Beauvais (1990-91) have shown that the higher the level of cultural identification of American Indian youth, whether American Indian, non-Hispanic white, or bicultural, the greater their self-esteem.

Self-esteem should relate to drug use, because those who are less culturally competent should have more need for drugs, but Swaim and colleagues' (1989) review of the literature shows that self-esteem has not been a particularly strong predictor of substance use. The complexity of subcultural identification in U.S. society suggests a reason for the low relationship. As an example, youth with problems in school should not, according to the model in figure 2, be meeting their needs for recognition and respect and should therefore develop lower self-esteem. But figure 3 shows that they are also more likely to become associated with drug-using peer clusters. Youth with poor school identification may be meeting their personal needs through those peer clusters, achieving acceptance in part through drug use, and their self-esteem may then increase. A pattern similar to this one has been shown to exist for dropouts. At the time they drop out, their self-esteem is at its lowest; after dropout, it increases (Wehlage and Rutter 1986), probably because they develop successful identification with new subcultures at work and play.

Cultural Identification and Deviance

Care must be used in defining deviance, because behavior that is deviant in one culture may not be deviant in another. Deviance, however, can be defined culturally and would then, by definition, be antithetical to cultural identification. Therefore, high cultural identification should be negatively related to deviance and, for those substances that are not tolerated by the culture, to drug use. There is, however, a complicating factor. Deviance and deviant attitudes may be linked strongly to a subculture and not to the macroculture. Drug use and other deviant behaviors may be supported by the immediate interactions with other youth in deviant peer clusters even though they are not reinforced by the macroculture. High cultural identification at the macrolevel may reduce the chances that a youth will get involved with a deviant subculture but may have little potency in counteracting the effects of adaptation to this drug-using peer subculture once a youth is involved. Cultural identification may therefore have only a slight effect on reducing the chances of drug use associated with deviance.

Cultural Identification and Sensation Seeking

Relating cultural identification to sensation seeking presents a different challenge. The links to drug use may be complex and depend on the extent that sensation seeking is congruent with cultural values and attitudes about appropriate behavior. Values of the Plains tribes, for example, include the "warrior" tradition. Boys are expected to be adventurous and courageous, but there is less expectancy that girls will engage in the same behaviors. A Plains family with high cultural identification would therefore be more likely to reinforce males for behaviors associated with sensation seeking. In adolescence, this could translate into greater male experimentation with drugs in families with high cultural identification but might produce reduced sensation seeking and drug use in females from those same families. In families with low cultural identification, the traditions would not be as strong, and boys who had a tendency toward sensation seeking might not be reinforced differentially. There would then be fewer differences between males and females.

Summary: Cultural Identification and Drug Use

There are no simple, clear links between cultural identification and drug use. A high level of identification can lead to substance use if the culture approves. It can prevent use if the culture disapproves. It can even protect one gender while encouraging use in the other. Despite this complexity, a high cultural identification is almost always an asset; it suggests access to society's resources, success in meeting a culture's requirements, and growing out of that, general satisfaction with life.

The example of the excitement-seeking male illustrates both the costs and the benefits that can accrue from cultural identification. Excitement-seeking males may show their culturally approved adventurousness by playing with the extremes of alcohol use or by experimenting with other drugs, but even then, cultural identification is likely to be an asset rather than a liability. Those youth are likely to be involved with peer clusters that are not really culturally deviant; they will experiment, but they have other options in society and are not likely to be involved in other deviant behaviors. Their experiments will probably be limited to the drugs that are more socially acceptable, such as tobacco, alcohol, and marijuana. Their high level of cultural identification ensures that they will have other socially appropriate ways of meeting their needs, and they are not likely to move on to chronic use of harder drugs.

On the other hand, low cultural identification is always a source of problems, and these troubles may or may not include substance use. Low identification means that people are not meeting the requirements of an important subculture. They are forced to try to meet their personal and social needs by identifying with another subculture, and they are likely to locate other youth who are having problems in meeting cultural requirements. These youth will form peer clusters that meet each other's needs and that have a high potential for deviance, including drug use. As one young girl said, "I'm not smart, I'm not a jock, I don't have money to be a 'deb,' but y'know, like I can take drugs!"

The implication might be that serious drug use is limited to youth with poor cultural identification. But the orthogonal model also indicates that any pattern of cultural and subcultural identification is possible. There are youth who apparently have a high level of macrolevel identification, but who still get heavily involved with drugs. They have access to resources, they meet the requirements of the subcultures in their environment, and they should therefore be able to meet all their needs within the social structure. Despite this potential, they identify with deviant peer clusters. These youth either have pathological needs that cannot be met by ordinary means or they have, through chance or choice, become involved with other youth who have problems. Once involved with a deviant peer cluster, they develop needs that can be met only within that kind of group, so the involvement is self-perpetuating. Their high level of cultural identification is still an asset because, if these youth survive the deviant peer cluster, they may turn out to be successful members of society. They have skills developed in the mainstream of society to fall back on.

In contrast, the most severely troubled people are those who have been unable to establish a solid cultural identification with any macroculture or with any but the most deviant subcultures. These anomic people have few ways to meet any of their needs. Virtually all their social contacts are among the more deviant groups, and they are likely to be heavily drug involved.

The best example might be chronic inhalant users. Inhalant-dependent adults are likely to come from the ranks of those who are culturally marginal, regardless of the culture in which they are trying to exist (Oetting and Webb, in press). They do not have the ability to meet cultural requirements, even of the deviant subcultures that might provide alternatives for other people. Even in the subculture of heroin addicts, those who chronically use inhalants are usually viewed as outsiders and as incompetent. They do not have the ability to hustle heroin, to "take care of business" (Altenkirch and Kindermann 1986).

American Indians have more than their share of inhalant users, among both youth and adults (Beauvais and Oetting 1988*a*, 1988*b*; Beauvais et al. 1985; Oetting et al. 1989). This may be a function of the chronic problems on reservations where there are limited resources, serious cultural disorganization, and school problems, including high dropout rates. There is chronic unemployment, and existing patterns of adult alcoholism continue to seriously damage the family's ability to provide support. Too many young American Indians do not have much chance of developing a high level of identification with either American Indian or non-American Indian culture.

PREVENTION: ENHANCING CULTURAL IDENTIFICATION

The base of all cultural identification is the family. For the young child, the culture is the family. The family teaches language, which is laden with cultural cognitions. The family provides early training that establishes behavior patterns and that creates ideas about expected behaviors and outcomes, especially those that define a "good boy" and a "good girl." Family cultural attitudes and expectations permeate the youth's environment; they are the youth's reality. This early learning frequently "sets" cultural identifications, particularly those at the macrolevel, leaving a persistent and long-term identification at least through the adolescent years and, often, if the person remains in the family's cultural context, throughout the lifespan. For this reason, ethnic, racial, religious, or national identification are likely to be very strongly linked to and essentially equivalent to the family's cultural identification. Providing families with the abilities and the resources to create a strong cultural identification in their children is therefore an essential step. A community needs to provide opportunities for families and children to share cultural activities. Parents should be encouraged to teach cultural skills, legends, ideas, and values. Older members of extended families need to be given a chance to pass on cultural knowledge and attitudes.

The required immersion of children in a separate school subculture means that meeting the cultural requirements of the school is also essential. One of the major problems for American Indians has been the separation of the school culture from the American Indian macroculture. For too many years, the BIA schools were a subculture of Anglo society and not of American Indian culture. Worse yet were the boarding schools, where young American Indians were forced to adapt to an Anglo subculture while losing contact with their family's culture. Boarding school children could not meet their needs through their families, so they turned to other youth. Peers rarely apply strong sanctions against deviant behavior, and the highest rates of drug use among American Indian youth have been found in boarding schools. It is only in recent years that American Indian tribes have been regaining control over their school systems, but they need more than control; they need to develop school environments that provide youth with opportunities to build cultural identification with either Anglo or American Indian culture or both. If young people are to develop a strong cultural identification, the schools need to become a nested subculture, reflecting the culture of the people. In the case of today's American Indians, the schools must provide an environment congruent with both American Indian and Anglo cultures. Families need to become more closely bonded with the schools so they can prepare their children for and influence the school subculture.

Cultural identification must then be played out in the community. The community provides cultural resources and a constant flow of both subtle and obvious cultural messages. As they emerge into adult roles, youth need to find cultural messages that are consistent with their expectations and activities that engage their skills and provide meaningful rewards. They need to live in environments where they have a chance to engage in rich, meaningful, and satisfactory cultural activities. If the community can offer opportunities only for hopelessness and passivity, or for anger and aggression, there is little chance for building a solid cultural identification.

Reservation people suffer from poverty, unemployment, high rates of health problems (including tuberculosis and sexually transmitted diseases), adult alcoholism, and high rates of adolescent drug use. The culture needs resources to meet people's needs, starting with these fundamental needs. Reservation communities need to be able to provide employment, education, training, health care, cultural activities, and opportunities that allow their people to meet physical, social, and personal needs. The communities also need to provide multiple opportunities to engage in culturally relevant activities. It is not enough to provide an isolated sweat lodge experience or to have 1 hour a week of instruction in American Indian culture in the schools. There must be continuous opportunities for cultural activities and a wide range of different activities so that people have a chance to utilize their various talents and skills.

In history, either cultures have remained isolated and in conflict with neighboring cultures, or minority cultures have been conquered and absorbed. The orthogonal model of cultural identification offers another option, the possibility that cultures can remain alive, healthy, and independent of each other in the same physical environment. If that can be achieved, people will be able to choose to develop high levels of cultural identification with either of the two cultures or with both, depending on their own values, needs, and abilities. American Indian reservations offer an opportunity to test these possibilities. They are still deep reservoirs of American Indian culture and also provide opportunities for involvement in Anglo culture. The options promised by orthogonal cultural identification theory exist in these communities. Most American Indians today are to some extent bicultural, but all the different patterns and combinations of cultural identification exist (Oetting and Beauvais 1990-91). American Indian reservations offer a chance for a great natural experiment. If they can find the resources they need, rebuild the school systems to fully reflect American Indian as well as Anglo culture, and survive as tolerant multicultural societies, they can point to one possible way toward resolving some of the cultural conflicts that are tearing at today's world.

NOTE

1. Although not derived directly from other models, this theory of cultural identification is adumbrated by the work adjustment theory of Dawis and colleagues (1968).

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Acculturation: The Broader View. Theoretical Framework of the Acculturation Scales

Juan-Luis Recio Adrados

INTRODUCTION

The purpose of this chapter is to expand the theoretical framework underlying most of the scales of acculturation developed in the field of mental health since the late 1970s. The book "Acculturation: Theory, Models, and Some New Findings" (Padilla 1980) soon became a landmark for those working in the area of measurement of acculturation.

Surprisingly, in Padilla's theoretical framework, a single author (Gordon 1964, 1978) was cited as the source of inspiration. Recently, Vega and colleagues (this volume) and Rodriguez and Recio Adrados (in press), among others, have also attempted to measure the impact of acculturation within the field of drug abuse.

In spite of a decade of efforts to develop new scales, little has been achieved to increase the substantive knowledge about the complex phenomenon of acculturation. Furthermore, the scarce findings have seldom been brought to bear on prevention- or intervention-oriented programs in mental health-related areas. This may be due to the uncertain nature of these findings and to the wide variety of the American cultural panorama under study, which requires a comprehensive research program.

However, the lack of awareness of much of what has been developed in other closely related disciplines seems to be the main reason behind the deficiency of the theoretical framework of acculturation scales. Consequently, this chapter suggests several theoretical developments and considers several methodological revisions to shed some light on the state of the art in the field of acculturation measurement.

No comprehensive review of the available instruments is attempted here, because Rogler and colleagues (1991) have recently published an excellent one. Instead, a few instruments within the major theoretical approaches utilized

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to develop acculturation scales are analyzed to show their main strengths and weaknesses, while keeping the focus on the underlying theories.

UNIDIMENSIONAL ACCULTURATION SCALES

Existing scales of acculturation have been written and validated against the backdrop of a fairly unitary, though not very elaborated, theory within the boundaries of behavioral or cognitive clinical psychology. Such theory looks at acculturation as a unidimensional and unidirectional process that individuals from other cultures, usually of minority status, go through to take up the various traits of the dominant culture. This model of acculturation, which underlies most of the scales examined in this chapter, also can be regarded as bipolar, because an individual's assumption of the culture of the host society always entails the simultaneous abandonment of the culture of origin.

The main strength of the scales drawing on such a theory is a methodological one: Measurement is simplified by relying mainly on the use of language and other easily identifiable patterns of behavior of the dominant culture. However, several theoretical weaknesses point to a resulting deficient validity of the scales at issue, which could be labeled *lack of a context*.

Items on language use and preferences are always included in the mentioned scales. However, mere use of a certain language, though significant, is not as important as the "speech act" (Wuthnow et al. 1984; Habermas 1979) in which language is situated and evaluated. A psychiatric vignette (Rogler et al. 1989) in a different context illustrates this issue. In this scenario, two bilingual Hispanics speak English, not to communicate better with each other but to thwart communication with and isolate a third Hispanic unable to speak English.

At other times, the preference for English among bilingual Hispanics intends either to signal social distance in relation to those linguistically less competent or to persuade the partner to adapt to the rules of the major institutions in society. In both cases, the meaning of language remains inaccessible to those not aware of both the situation and the social structure underlying it.

Similarly, with regard to selection of television programs (a frequent item in the acculturation scales), the context also seems to have fundamental significance. The watcher's position in social structure as well as his or her ideology may define the meaning of program choices much more than preference for the lifestyle of the dominant culture. For example, a traditional-minded bicultural person may always watch the news in English because the opinions being aired on the Spanish channel are too liberal.

Moreover, other variables such as friendships, which also are frequently included in the acculturation scales, follow a bipolar orientation, performing as ambivalent indicators either of acculturation or of assimilation into the social structure.

Although not all their instruments seem to have been validated to date, a study by Lang and colleagues also showed that "the best adjusted Latinos (satisfied with their lives and subjectively happy) were bicultural, although oriented more toward the Latino culture than the Anglo culture" (Lang et al. 1982, p. 433).
This finding contrasted with the unidimensional nature of the instruments utilized by Lang and associates. The Global Acculturation Scale, especially designed for the study by Lang and coworkers (1982), and the Cuellar scale (Cuellar et al. 1980) on which it draws, combine both the psychological and a certain sociological orientation by taking into account the generational level, the years of education, and the percent of life lived in the United States in addition to language usage and other commonly included items. Accordingly, Lang and coworkers (1982) found that income and education were significant predictors of psychological adjustment. However, self-reported feelings of satisfaction and conformity in certain life areas need further validation and, more important, are no substitute for evidence concerning simultaneously ongoing processes of ethnic identification. Such evidence has not been an area of concern for researchers who follow the unidimensional approach.

Above all, what is missing in most of the scales that follow the unidimensional or bipolar model of acculturation is attention to the context in which an immigrant experience with the host society takes place, including variables of a constraining or morphological nature such as socioeconomic status (SES). With the exception of Olmedo and associates (1978) and of Lang and colleagues (1982), *social class or stratum is not accounted or controlled for* by the acculturation scales, which is a symptom of the "disembodied" treatment of acculturation that prevails in the field, that is, one that does not pay sufficient attention to the morphological or sociostructural aspects of culture but that focuses mainly on ideas and values. The deficit is even more apparent in the presence of the obvious SES differences, for instance, between Cubans and Puerto Ricans on the U.S. mainland.

Importance of Context: SES vs. Culture

Leighton's (1982) elaboration of the concept of culture can help clarify this issue. For Leighton, as for functionalist sociologists, culture *in a strict sense* is a set of patterns that make a society work. No satisfactory explanation is provided by Leighton (1982) of the dysfunctional aspects or, in a specific way, of the existence of conflict and cultural change in every society. Seldom, if ever, can ethnic groups in a minority status within a larger society have a culture in this sense because they are not endowed with resources or mechanisms such as those enumerated by Parsons (1966) and Aberle (1950) that allow them to function as a whole society.

For Leighton, culture *in a diffuse sense* is the set of beliefs and practices of a certain social class or stratum (such as the so-called "culture of poverty") that is essentially reactive or adaptive to the socioeconomic situation. He believes that many cultural differences attributed to ethnic groups sometimes are nothing but traits of disprivileged groups reacting and adapting in a defensive way to their plight. At other times, such traits are just remnants (of a culture that no longer exists) that still serve as identity signals for certain fringe groups. The marginalization of these groups is further buttressed by their pseudocultural, or underclass culture-oriented, identification (Leighton 1982).

Leighton is correct in warning of the danger implicit in assuming that those patterns constitute a whole way of life. Marginal groups would then run the risk of becoming the object of discriminatory treatment on the part of the majority group in society. The fact is that those classes or strata (i.e., fringe or marginal groups) possess both an "aspirational culture" that resembles that of the other classes and a "class culture" that exhibits the traits of a partial and defensive lifestyle (Recio Adrados 1977).

Moreover, any concept of culture—*in its broader sense* as a collective lifestyle —necessarily includes a limiting or morphological component, namely, the reference to its material, biological, and psychosocial resources. Therefore, an *excessive separation of culture from social structure*, such as the one implicit in the theory grounding most of the acculturation scales examined in this chapter, simplifies reality and does not serve the interests of the minority groups.

For Rogler, the absence of SES among the indicators of acculturation constitutes an asset rather than a deficit (Rogler et al. 1991). However, many of the problems Rogler detects with both the theories of acculturation and the inconclusive findings of the extant research seem the product of an excessively psychologizing approach or of the *lack of a multidisciplinary synthesis*. Sociology, anthropology, and social psychology could contribute the specific and institutional aspects Rogler finds missing in the studies on acculturation of migrants. Acculturation, above all, is a sociocultural process. Therefore, psychologists alone cannot provide adequate research because individual traits need to be put into context by drawing on the expertise of various scientific traditions.

Acculturative Stress Model

Models that focus on acculturative stress are useful applications of the basic unidimensional theory. The process of acculturation, as conceptualized by such theory, entails migrants' psychological and even pathological stress, which can result in various kinds of deviant behavior, including drug abuse. Conceivably, most of the research in this area has been carried out by psychologists dealing with mental health problems (see references in Rogler and colleagues 1991 and in Vega et al., this volume).

Vega and colleagues (this volume) work out a model to "determine the salience of acculturative stressors as causal factors in the onset of drug use." Their chapter "reports the development of several scales intended to measure cultural orientation and acculturative stressors" because "there was a need to develop scales for use with the Hispanic adolescents in order to test the model." This model is presented as "a logical step toward," not as "a basis for a theory of acculturative stress and drug use." Furthermore, the model assumes that the mediating factors, such as adequate family functioning, can counteract the negative influence of the acculturative stressors and thus prevent the occurrence of drug use.

Vega and associates deserve credit for being among the first to study the relationship between acculturation-related stress and drug use. Also, their measure of acculturation is surely one of the most complete in the field. However, the model on acculturative stress is in need of more precise conceptualization and theoretical articulation. Above all, distinguishing cultural orientation from acculturative stressors and cultural protective factors, although useful from the operational point of view, needs clearer justification. In addition, the model's sequence of variables leading to drug use (figure 1, Vega et al., this volume) is not fully reasoned.

First, both cultural orientation and strain are treated as exogenous variables (e.g., not to be explained by the model), which amounts to depriving them of their necessary context (a concept dealt with extensively above). Second, the inclusion of self-esteem in the model is not likely to help clarify the enigmas presented by the process of culture change any better than the social science literature Vega and coworkers criticize. Theoretical articulation of the social-contextual and psychological variables is required so that reciprocal interaction between them is taken into account.

The main methodological suggestion derived from the above remarks is the need for comprehensive nonrecursive (reciprocal) and recursive (unilinear) causal analyses. For example, a person's cultural orientation does not only affect his or her school involvement but also depends, in turn, on the years of schooling in the host society; not only does self-esteem depend on social support networks, but it also affects those networks.

Even more to the point, dominant culture definitions of psychopathological distress should be studied interactively relative to minority group definitions of disease and not just as intermediate variables in a linear sequence leading to deviant behavior (as defined by the dominant culture).

Beyond methodological issues, the theory of acculturative stress (Vega et al., this volume) is also in need of revision and further development insofar as it is embedded in a model of acculturation. First of all, it is surprising that ethnic awareness is associated with negative characteristics such as deviance and substance use instead of being viewed as a protective factor against acculturative strain. This may be due to a narrow conceptualization of ethnic consciousness as an acculturative stressor accounting for perception of discrimination. However, no suggestion is made as to the need for studying reciprocal causality between perception of discrimination—a stressor—and ethnic awareness (Vega et al., this volume).

The concept of self-esteem ("personality traits" in the model) is offered as an explanation for the perception of cultural strain and as an intervening variable either precipitating or preventing drug use. According to the theory (Vega et al., this volume), the lower the self-esteem, the greater the perception of discrimination or the higher the awareness of the minority status. But it seems that the opposite interpretation would make at least as much sense.

No suggestion is made regarding the opportunity of exploring either the role of SES as an indirect or mediate predictor or, in a specific way, the relation among low SES (scarce resources), ethnic awareness, and perception of discrimination. Both associations (low SES and ethnic awareness and low SES and perception of discrimination) are likely to occur under certain conditions of socialization and coercion.

The acculturation theory suggests that "cultural orientation" is a "background factor" in the proposed model (Vega et al., this volume), although the reason for this is unclear. "Familism," seemingly one of the indicators of "cultural orientation," is implicitly ascribed a buffer or protective role in mediating the postulated influence of the acculturative stressors on deviant behavior. However, references to existing theories of collective identity and cultural change are missing, which could provide the necessary cohesion for the various disparate propositions.

Cultural factors are thus supposed to stimulate and, at the same time, reduce deviant behavior. This polarization of "cultural orientation" seems to be aimed at proving its relevance to deviant behavior. As a consequence, "family cultural orientation" is assessed only by questions concerning how "American" or how "Latin" are the mother's, father's, and youth's own customs (Vega et al., this volume). This method seems rather weak as a foundation for a background variable. Deeper aspects of the immigrant's life history in the society of origin (e.g., basic life values and beliefs) should also be taken into account.

Given the relatively undeveloped state of the theory of acculturative stress and drug use, theory building, at this stage, would greatly benefit from a more naturalistic research approach. Only by drawing on the actor's perspective is it possible to start unraveling the complex interrelationships among ethnic awareness, perception of discrimination, individual cultural values, perception of family's degree of acculturation, language behavior, and individual attitudes showing familism. These variables fully spell out what the above-mentioned labels abbreviate at the risk of diminishing clarity.

Maybe the first step in that direction should be to focus on the key concept of ethnic consciousness or identity. There is a relatively abundant social-psychological literature on which further conceptualization could build. The next step would be to inquire into the reciprocal relationship between "ethnic awareness" (or "identity") and "perception of discrimination," which, as already indicated, also appears in need of clarification. In summary, the premises of acculturative stress theory (Vega et al., this volume) need further appraisal and development.

Cultural factors may both aggravate and assuage situations leading to deviant behavior. Little is known, however, about the conditions making for such an uncertain impact. A conclusion might be drawn that, in view of the limitations of the acculturative stress theory, it is important to incorporate propositions of relevant psychosocial-related theories and findings of ethnographic and other qualitative naturalistic studies before building new scales that add little to the substantive knowledge of the process.

Multidimensional Models

A more refined theoretical treatment of acculturation is put forward in Szapocznik's bicultural model (Szapocznik et al. 1980; Szapocznik and Kurtines 1980). To a certain extent, this model represents a positive exception to the state of the art in the psychological field. It holds

> that if the cultural context within which acculturation takes place is bicultural, then the acculturation process will tend to take place along two independent dimensions. The first dimension consists of a linear process of accommodating to the host culture; the second consists of a complex process of relinquishing or retaining the characteristics of the culture of origin (Szapocznik et al. 1984, pp. 323-324).

The bicultural model recognizes, therefore, the eventual dynamic behavior of the minority group during the process of acculturation and not just its passive resistance as connoted by the majority of the existing psychological scales. However, although it pays attention to the eventual pluricultural setting of the host society, Szapocznik's model falls short in conceptualizing the time-space dimension of the process of acculturation, which is discussed later in this chapter.

Mendoza's (1989) Cultural Life Style Inventory is yet another instrument developed to measure acculturation. Mendoza and Martinez (1981) had previously devised a multidimensional model of acculturation. The recent "cultural lifestyle matrix" (Mendoza 1989) tries to identify the most frequent cultural tendency among the following: *cultural resistance* (rejecting the acquisition of new cultural norms while maintaining the native ones), *cultural shift* (substituting alternate cultural norms for the native ones), and *cultural incorporation* (adapting norms from both cultures). Along the five dimensions of Mendoza's inventory (namely, intrafamilial language use, extrafamilial language use, social affiliation, cultural familiarity, and cultural identification and pride), he found that certain customs from both the native and the host culture tended to coexist across generations (Mendoza 1989). These findings served to substantiate a process of biculturalism.

However, Mendoza rejects the inclusion of demographic factors such as SES, generation level, and educational level in his instrument because, as he argues, "they are not sensitive indicators of individual differences" and "they do not share a one-to-one correspondence with the process of cultural change" (Mendoza 1989, p. 374). By implication, the items listing cultural customs and practices in his inventory are attributed to show such a correspondence—a more than dubious attribution. Also, the content validity of those items was established by using relatively small samples of Mexican-Americans of first, second, and third generations. Mendoza's bidimensional approach shows, at best, that the choice of a bidimensional or bicultural model alone does not solve all the problems facing the acculturation scales (Mendoza 1989). Here again, context is missing.

Although the development of instruments for assessing all sorts of individual traits belongs to social psychologists, acculturation, like mental health, occurs not only within the individual but also in the socioecological interaction within the group and within the wider environment. Therefore, to avoid an excessive psychologization of the object acculturation, it becomes necessary to control for social class or SES unless the SES indicator is used in operationalizing the concept when analyzing the relation of any other phenomenon to acculturation. By controlling for social class or SES, it is possible to distinguish cultural differences from socioeconomic factors. Thus, for example, female-headed homes can be seen not as a cultural variable but as a component of the adaptive "class culture" (Recio Adrados 1977).

These questions will be solved through empirical research that should be based on a multidisciplinary theoretical approach. What is at stake is the greater (cultural) or lesser (stratum or class) persistence of various patterns of belief and behavior within determined ethnic or migrant groups. The assumption is that those "culture of poverty," or class-cultural, traits that develop as a reaction to a marginal or discriminatory situation experienced by some groups will disappear as soon as there is change in the circumstances negatively affecting those groups. According to Margaret Mead (cited by Leighton 1982), it takes at least three generations to determine whether a certain trait or pattern of behavior is reactive or cultural.

Inconclusive Findings of the Acculturation Scales: A Balance

Rogler and colleagues (1991) have recently published a critical review of the acculturation scales and of the theories underlying them within the context of migration and mental health. They suggest that the relationship between acculturation and psychological distress can be positive, negative, or curvilinear.

In the case of a positive relationship, well-acculturated subjects are more likely to show psychopathological symptoms, such as drug abuse, that are endemic to the host society. The relationship is negative when less acculturated subjects are more likely to show symptoms deriving from their lack of adaptive skills to the new environment. In the curvilinear relationship, the appearance of those symptoms is higher at both extremes, reaching a minimum when an optimal balance between the culture of origin and the culture of the host society is achieved. In other words, the curvilinear relationship between acculturation and psychological distress is best demonstrated by the bicultural model.

The basic assumption of these theories is the presence of acculturative strain whenever there is a difference between the culture of the host society and that of either the ethnic native minority or the migrant group. The resulting strain is mediated through the minority group's perception of discrimination and of its inability to cope with the demands of the host society. There is also general agreement as to the positive, stress-alleviating character of biculturalism following Szapocznik's therapeutically oriented approach (Szapocznik et al. 1980, 1984).

However, what is surprising in Rogler and colleagues' (1991) review, from an applied research and prevention perspective, is the inconclusiveness of the research. Twelve research studies show a positive relationship between acculturation and psychological distress; 13 show a negative relationship; 2 show both a negative and a positive relationship; and, finally, 3 show a curvilinear one.

Because of the lack of uniformity of the assessments, Rogler and colleagues (1991) do not attempt a metaanalysis of the studies. The effect sizes could not be compared due to a lack of statistical information. However, Rogler and colleagues do find a certain degree of commonality in the studies that focus on alcohol and other drug use and abuse. Five of six studies show a positive relationship between acculturation and psychological distress and suggest the importance of sex-role differences. Yet they conclude from these studies that the existing theory is too general because it does not consider, for instance, the unique character of the various types of migration according to their imported institutional practices and various regions of arrival (such as rural, urban, metropolitan, more or less densely populated by immigrant groups).

In consonance with Rogler and colleagues' views, a broader view of acculturation is proposed here, namely, one that should encourage more specific theorizing and a more naturalistic research approach, both aimed at the application of their findings in preventive interventions.

TOWARD A MORE COMPREHENSIVE MULTIDISCIPLINARY APPROACH TO THE THEORY OF ACCULTURATION

From Adaptation to Quality of Life as the Ultimate Goal for Acculturation

Existing studies that focus on the process of acculturation seem to have reached an impasse. The problem seems to lie with (1) the limited conceptualization and theory and (2) overemphasis on almost redundant psychometrics. Perhaps a global concept such as quality of life should be brought to bear on the acculturation problem to further elucidate both its theoretical and its social policy dimensions. Quality of life is surely related to social integration or, at least, to adaptation, in the sense of a functional performance of universalistic roles (namely, those required from all its members by the host society) bringing about the actor's satisfaction (Recio Adrados 1975).

Some recent conceptualizations (Mendoza 1989; Berry and Kim 1988), although delineating various phases and orientations in the process of acculturation, are basically in agreement with the multidimensional scales discussed above. Berry and Kim (1988), however, seem to create a new problem of conceptualization. They identify five phases as the process relates to mental health status:
(1) precontact, (2) contact of the two groups impelled by different purposes,
(3) intergroup and psychological conflict (although not necessarily occurring),
(4) crisis point (which is also a possibility), and (5) some kind of adaptation.
Various types of permanent conflict and crisis are also possible.

However, equating varieties of adaptation with four modes of acculturation—assimilation, integration, separation, and marginalization—seems to promote confusion. In fact, the third and fourth modes, namely, separation (or segregation) and marginalization (self-chosen separation from both the host culture and the culture of origin), seem to be negatively qualified, whereas adaptation is normally used to denote some degree of positive stabilization either of an integrative or an assimilative kind, as illustrated by Berry and Kim's (1988) first two modes.

Adaptation can be defined, in the context of migration, as "a functional performance of universalistic roles, namely those common to both the host society and the migrant group, bringing about some measure of actor's satisfaction" (Recio Adrados 1975). Thus, the subjective dimension of adaptation is based on an objective one, for example, holding a job or doing satisfactory schoolwork.

The mere adoption of behavioral patterns of the host society such as language might be accompanied by a state of severe strain and emotional alienation leading to a sudden disengagement from the performance of the universalistic roles. On the other hand, stressing value and emotional orientation, while not considering actual behavior, could also develop into a state of isolation that is dysfunctional for both the migrant and the receiving society. Actual performance of universalistic roles, however, may go hand in hand with a wide set of particularistic roles, namely, those having their frame of reference in the society of origin.

Sociostructural Dimensions of the Acculturation Process

Most of the flaws affecting the state of the art of the theory underlying the acculturation scales relate to an insufficient conceptualization of acculturation.

Acculturation is primarily a social phenomenon or, more precisely, a social practice.[1] To establish a solid theoretical background for the study of the acculturation process, Giddens' (1984) theory of structuration, or of the constitution of society, seems to be a good choice because it successfully attempts to strike a balance between the forces making for order and those striving for innovation and change.

Giddens puts aside any epistemological reservations about his project and considers his theory to be an ontology of potentialities inherent in social life. For him, the basic domain of study of the social sciences are "social practices ordered recursively across space and time" (Giddens 1984). When applied to the acculturation process, this means that the minority group disposes of various kinds of resources on which to ground the management of its interaction with the dominant society. Although the perception of enticements in a geographical area is a prerequisite for pulling prospective migrants out of their habitat and culture, it takes a relative endowment of skills and aspirations for the migrant group to undertake such an enterprise.

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Such a view finds support in Giddens' conceptualization. For instance, "human agency" is the power for intervening in changing the state of things. It is widely recognized that power and conflict are concepts hardly accounted for in the functionalist theories of action. For Giddens, however, social power presupposes resources or transforming capacities both in the material (allocative resources) and personnel (authoritative resources) areas and is exerted in a "dialectic of control."

Thus, the theory of structuration helps to discover another weakness in the theory underlying the psychological scales of acculturation, namely, its silence about the collective properties of the migrant group. "Underlying all routine practices, agents develop an unconscious sense of trust in the fabric of the social activities and the object world that comprise the course and circumstances of their daily lives" (Giddens and Turner 1987). This unconscious sense of trust surely helps the persistence of the culture of origin. Szapocznik and Kurtines' (1980) "bicultural model" of acculturation implicitly includes the migrant's sense of basic security, which allows him or her to partially relinquish cultural elements of the original culture while attending to the incorporation of cultural elements from the host society.[2]

Giddens' concept of duality of structure (Giddens 1984; Giddens and Turner 1987) also backs up this dynamic or proactive conceptualization of the minority status underlying a multidisciplinary and multidimensional approach to the acculturation process. Duality of structure means that the collective properties of society do not exist outside of action but are implicated in its production and reproduction (Cohen 1987). That is, Giddens (1984) is as much concerned with the explanation of structure and reproduction of society as with accounting for sociocultural change.

Besides enjoying an unconscious sense of trust in the social structure, social actors—migrants among them—knowledgeable in tacitly understood social procedures are, according to Giddens (1984), partly constitutive of social practices and, therefore, of the collective properties of society.

This broader, sociologically oriented view runs counter to the one dominating the theory grounding most of the acculturation scales where the power of the dominant society seemingly overwhelms any cultural strategy eventually carried out by the minority group. Such strategy is for all practical purposes ignored in that theory. Its narrow focus zeroes in on a quasi-mechanistic and unilinear process of replacement of one culture with another without attending to the eventual involvement of the minority group in the active promotion of its culture of origin. This promotion has often been achieved either through national and regional clubs and associations or through programs of bilingual and bicultural education, among other strategic devices.

Although Giddens' theory of structuration is generally attentive to the actors' resources, it regrettably neglects *"personalized relationships"* or "anchored relations" (Goffman 1971), which play an important role in the acculturation process. Family relationships, which are examples of personalized relationships, are surely the main contributing agents to the reproduction of the culture of origin of the migrant group.

Finally, as Wittgenstein stated, *time-space* is constitutive of the identity of object or events (cited in Giddens and Turner 1987, p. 208). Therefore, the object of acculturation should include the temporal dimension by stretching backward to the prehistory of the migrant group in the society of origin as well as all the ecological diversity affecting the group's development.

In Giddens' view, relations among actors situated in time-space and conducting social practices ("position practice" relations) include normative definitions or role prescriptions, whereas their incumbent agents are linked to determined physical and social locales (Giddens 1984, pp. 83-84). Empirical research is needed to determine the degree to which the region of origin keeps on working as locale, or frame of reference, for the migrant group even without a situation of copresence. In this way, the process of acculturation is placed within the *naturalistic* or *real-life context*.

Regarding the time dimension, anticipatory socialization, for instance, is a valuable resource to which the migrant can turn in maintaining the culture of origin. For example, Wilpert (1980) was able to show that the educational aspirations of the young migrant Turks in Germany, in correspondence with the goals pursued by the family migration, were higher than those of their German counterparts. Even the often utopian expectation for return migration in the distant future, as part of this time-space context, has an important and sometimes decisive impact on the migrant orientation toward the host society.

Therefore, a comprehensive concept of acculturation should seek to strike a balance between the family resources, including anticipatory socialization in the country of origin, on the one hand, and the family's performance of universalistic roles (namely, those demanded by the host society from all its members) on the other (Recio Adrados, in press).

Collective or Ethnic Identity

Ethnic identity is an important concept, though one of the most neglected, in the theoretical foundation of the acculturation scales. The reason for that omission may be a mere mechanistic or "cultural-mystical" approach, namely, a belief in the superiority of the dominant culture, on the one hand, and in the inability of minority groups to unquestioningly accept that culture in its totality, on the other.

However, empirical research on Spanish migrant working class families in Holland and Switzerland demonstrated the ability of second-generation youth to selectively and ideologically (i.e., according to contingent convenience) choose among different group identities both in family life and in the larger society (Recio Adrados, in press).

Soest and Verdonk (1984) define ethnic collective identity as "an ideology originating from the primordial (or psychological) and social (or situational) interests of an ethnic group and of its individual members, which is worked out in the social practices of the group and its members." Such a definition follows closely the conceptualizations by Taboada-Leonetti (1981) and Aronson (1976). Taboada-Leonetti's concept of collective ethnic identity as ideology seems to back up the position taken in this chapter and in its turn is in agreement with Giddens' definition of ideology as "those asymmetries of domination which connect signification to the legitimation of sectional interests" (Giddens 1984, p. 33).

Structures of meaning, therefore, are only analytically separable from domination and from legitimation. Thus, social practice of both symbolic and power-building (or resource-mobilizing) character remains the only source of the constitution of society and its structural processes.

Taboada-Leonetti's (1981) and Giddens' (1984) conceptualizations coincide even more in their opposition to any sort of predetermination and uniformization of the social practices entailed in the process of acculturation insofar as this process forms part of the structuration of society. Minorities of any sort can see their position far better represented here than in those theories of acculturation more or less tributary to the unilinear functionalist or cultural-mystical orientation. For Taboada-Leonetti, the collective identity is a group image deriving from certain sets of identity traits recurrent in the individuals integrating the group. Such an image, always changing, performs as a model being proposed to the group members as a sort of projection of the same group as well as an anticipatory ideal image elaborated by each of the group members.

Therefore, a double dialectical relation exists between the individual and the group identity and between the collective group image and the activities through which the group defines itself. In fact, minorities' social movements and demands take root on this collective identity.[3]

In other words, the group identity performs as an ideology, namely, as a social practice representative of the relationships of the individual both with the group and with the larger society. This collective identity or ideology not only has an adaptive character but also includes a social practice of production of conflictual and resistance symbols against the locus being allocated to the ethnic group by the society. The same identity also includes a more or less utopian claim to a different place in that society. This conceptual framework, which proved its usefulness in interpreting the situation of various Mediterranean minorities in central Europe (Recio Adrados, in press), completely diverges from the theory underlying the unidimensional acculturation scales developed in the United States during the past decade.

METHODOLOGICAL CONSIDERATIONS ON CULTURALLY SENSITIVE MEASUREMENT OF MENTAL HEALTH

In a parallel way to Rogler and colleagues' (1991) conclusions on acculturation scales, Berry and Kim (1988), in their short review of recent findings on acculturation and the mental health of the migrants, also show inconclusive evidence and state that "the earlier generalizations about the inevitable lower mental health status of migrants are no longer tenable." Available scales, questionnaires, and other instruments are mostly standardized for use with Anglo-American populations. The lack of cultural sensitivity of these techniques of measurement and diagnosis may be responsible for the attribution of lower mental health status to migrants. The "emic" (indigenous to the culture) interpretation of deviant behavior or mental pathology may respond, for example, to spiritualist doctrines performing therapeutic positive functions, as shown by Rogler (1989) among Puerto Ricans.

Notwithstanding the inconclusiveness of the findings in the psychological treatment of this subject, Rogler and colleagues (1991) label the work done so far as an attempt to deal with "the exogenous impact of acculturation on mental health." They seem to imply that the acculturative phenomenon was not intended to be explained by the available models but rather to be taken for granted. They further propose the study and explanation of the endogenous impact of acculturation as a relatively unexplored field of research.

Rogler and colleagues (1991) expect the outcome will be a complex set of propositions expressing the multiple relationships between cultural and internal psychological processes. That is, acculturation would shape subjectively the psychological structures through which distress is expressed. However, Rogler and colleagues' insistence on the internal character of the acculturation impact seems to forget the holistic, or global, character of the process, which needs operationalizing through behavioral and mental indicators (e.g., using English, not feeling discriminated against but rather feeling treated as equal to the majority members).

These behavioral and mental factors can be brought to bear on the study of psychological distress to elucidate its full meaning. For example, the Hispanic cook, in the vignette mentioned above, was intentionally isolated by his fellow Hispanic workers and then was diagnosed as suffering depression as a consequence of his inability to speak English. However, considering acculturation as an endogenous force (Rogler's expression interpreted above) should not entail narrowing it down to only its mental indicators, as he seems to imply. Acting out is a symptom or behavioral component that could be linked either to another behavioral component of acculturation, such as having only minority friends, or to a mental component, such as "perceiving discrimination."

Nosological categories or types of diseases, Rogler and colleagues imply, are culturally defined or culture bound, not only in their internal psychological components but also in their external ones insofar as psychological distress is expressed through both internal and external symptoms. Acculturation, therefore, performing as both an endogenous and an exogenous force through its mental and external dimensions, should be conceptually related to both the external and internal components of nosological entities. Consequently, the main object of study in research should be psychological distress as defined by the partly acculturated minority, because meanings derived from both cultures are intertwined in that definition, eventually bringing forth original ones.

Along this line, Fabrega's (1974) model of *illness behavior* could be applied with some modifications both to acculturative stress and to drug behavior.[4] First, labeling of acculturative stress should not be easily taken for granted but rather studied as a dependent variable. In a second step, once the various stressors have been properly identified, naturalistic techniques would be needed for grounding further quantitative research on the various cognitive or informational stages through which the migrants or minority members assess each of the straining factors.

Because the same label (e.g., depression or alcohol abuse) may respond to different indicators or operational units, Fabrega (1974) says that cross-cultural comparisons will be possible only if the researcher takes up an *objective disease framework* (namely, a syndrome of physiological or behavioral alterations of universal distribution) susceptible of being associated to a framework of folk illness behavior as defined in the native taxonomies of peoples.

The methodological implementation of such a model could be as follows. Folk illness behavior (or a folk version of drug use effects), as defined in the native taxonomies, would be surveyed in a stratified random sample of first-, second-, third-, and fourth-generation migrants. By using a quasi-experimental design, the folk illness behavior could thereafter be related to the presence or absence of the "objective disease" as diagnosed through standard clinical testing. The incidence rate would then be compared with that of a matched control group of Anglo-Americans of fifth or higher generation whose patterns of drug use effects are detected through standard self-report instruments.

Cross-cultural comparisons are always difficult, however, because "folk illness labels often seem to be applied in a random, haphazard manner" (Fabrega 1974, p. 180), although this may be a wrong impression due to deficient field coding procedures. In any case, even excellent comparative studies of drug use of a quantitative kind, like those of Caetano (1988) on alcohol, need to be complemented and integrated with those of the socioanthropological interpretive kind if the findings are to be useful in the fields of treatment and prevention. Also, in the field of mental health, a more satisfactory conceptualization of acculturation remains the basic issue while the building and validation of culturally more sensitive instruments are pursued.

CONCLUSIONS

The increasingly multicultural character of American society urgently demands the broadening of the research spectrum on drug abuse, health, and other social problems, while taking as a baseline the already available theoretical and methodological constructs in the area of culture. The fact that these findings are widely scattered in neighboring disciplines of the human sciences should spur efforts of theoretical integration and multidisciplinary research.

Consequently, further theoretical developments and elaboration of new models should take into account the most recent literature in the closely related fields of anthropology, sociology, and social psychology as seems fitting to the multifaceted nature of the process of acculturation. In addition, ethnic collective identity, following the lead by Tajfeld (1974), Zavalloni (1973), Liebkind (1979), Taboada-Leonetti (1981), and Aronson (1976), among others, should be given full recognition through deeper theoretical elaboration of its cognitive dimension, including its ideological aspect.

The migrant or minority group should recognize, therefore, the potentiality for the positive, mixed, and negative modes of acculturation contemplated by Berry and Kim (1988), obviating thereby its mere passive stance within the model. In other words, the various resources available to minorities should be accounted for in any model, including devices for their mobilization such as the knowledgeability of social actors and material and symbolic power, both prior to and during migration. Consequent partaking in the dialectic of control allows both the agents of the host society and those of the ethnic group the reproduction of their autonomic strategies over the others' actions (Cohen 1987).

Given the scarcity of specific studies focusing on second-generation migrants, which are crucial for the development of the theory of collective identity and of the process of acculturation in the European literature, an emphasis on studies of second-generation youths, especially in the context of family life, would be welcome. Finally, unidimensionality or predetermination of the process of acculturation should be discounted given the social actors' capability to bring about historical variations in their own behavioral patterns, notwithstanding their obvious limits and constraints. Insofar as "all reproduction is contingent and historical" (Giddens and Turner 1987), an integrated theory of acculturation should be built through the consideration of "negative" case studies of those acculturative processes that suddenly change their course, for example, from conflict to adaptation of some sort or vice versa.

The acculturative stress model (Vega et al., this volume) is in need of further specification of the intervening variables, which requires a previous multidisciplinary conceptualization of the acculturation process itself. In a specific way, the SES of the migrant individual and group and the dynamics of the collective identity performing as an ideology should be taken into account to predict the perception of discrimination leading to stress. In addition, the double dialectic between ethnic identity and perception of discrimination, on the one side, and between perception of discrimination and actual strain, on the other, should be explored further through causal recursive and nonrecursive models.

Research on acculturative stress, such as culturally sensitive research on any other mental health topic, requires, as Rogler (1989, p. 300) recognizes, a pretest stage of immersion in the culture of the study group through ethnographic or other qualitatively oriented techniques. This seems to be the only feasible way to integrate local cultural meanings with conventional scientific categories.

NOTES

1. The term social action should be avoided here because, as Giddens (1984) says, the so-called theories of the action in sociology are more or less of a functionalist sort stressing society rather than the subject with his or her inherent capacity for transforming the former. Action theories, especially those conceptualized or inspired by Parsons (1937), are of the normative kind whereby social order is ensured through the internalization of supposedly widely shared values by the individual.

2. However, nothing is said in that model about the norms eventually leading the process toward the optimization of that basic trust in the new social structure under empirically determined conditions. Szapocznik's therapeutic intent focuses on the psychological drawbacks of monoculturalism and on the resulting cultural conflict opposing those parents unacculturated to the host society to the at least partly acculturated adolescents (Szapocznik et al. 1984).

3. Taboada-Leonetti (1981) has modified the McPartland (1971) instrument "Who am I?" to study the migrant's self-image in the context of the host society. Liebkind (1979) has also resorted to Kelly's (1955) inventory to explore the cognitive content of the social identity through the individuals' subjective reactions to belonging to various groups.

4. The model organizes "social and cultural data tied to occurrences of illness that influence the behavior of the sick person." The focus is on the information processed by a person during the various stages of such an occurrence: (1) illness recognition and labeling; (2) illness disvalues or undesirable traits; (3) treatment plans and action alternatives; (4) assessment of treatment plans; (5) treatment benefits; (6) treatment costs (e.g., time, money, loss of personal control); (7) net benefits or utility; (8) selection of treatment plan; and (9) setup for recycling and subsequent reevaluation. As Fabrega says, this is an economic model grounded on elementary decision theory and is not useful "for explaining the behaviors of persons or groups for whom illness is a global undifferentiated state" (Fabrega 1974, p. 177). Also, the linkage of decisions to illness may follow patterns different from those implied in the logical structure of the model, making possible only an inspirational or flexible usage of its sequence.

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Interactional Theory: Its Utility in Explaining Drug Use Behavior Among African-American and Puerto Rican Youth

Judith S. Brook

INTRODUCTION

The family interactional framework and its application to drug use has at least three major characteristics (for a more complete discussion, see Brook et al. 1990). First, the family is viewed as a system consisting of the potential adolescent drug users, siblings, and parents. This framework emphasizes a close mutual attachment between the parent and child in which the child identifies with the parent and the relationship is characterized by affection and lack of conflict.

The second characteristic concerns the interrelationships and interactions of the family system with five significant domains: (1) acculturative influences, examples of which are African-American and Hispanic activities and familism (this domain represents an addition to the family interactional framework); (2) ecological factors, such as the school environment; (3) the adolescent's personality and behavior traits, such as risk-taking behavior; (4) the domain of peer group attributes, such as deviance; and (5) drug context variables (e.g., friends' drug use and drug availability).

The third characteristic of the framework deals with the sequencing of domains that ultimately lead to the adolescent's drug use. This chapter also assesses whether the theory can be generalized to different ethnic groups, more specifically, inner-city African-Americans and Puerto Ricans. Therefore, this chapter has three foci:

1. The impact of the family domain, as well as the other domains, on the adolescent's stage of drug use

2. The exploration of a hypothetical sequence (specified below) that embeds the family domain in pathways that include the remaining domains and that culminate in drug use

3. The extent to which family protective factors can mitigate risks stemming from the environment

INTERRELATIONSHIP AMONG DOMAINS

An overall view of the sequential pathways of the family interactional theory is as follows: Acculturation and ecological factors influence the parent-adolescent attachment, which in turn affects the adolescent's personality and behavior. The adolescent's personality contributes to the type of peers he or she selects for friends, which then affects the drug context domain. Finally, the drug context domain has an effect on the youngster's drug use. In addition, the personality, peer, and family domains have "direct" effects on the youngster's drug use.[1] These domains are also mediated by the drug context domain.

According to this version of the family interactional perspective, the parent-adolescent relationship is central, and the cornerstone of that relationship is mutual attachment. Recently, attachment has been applied to the affectional bond between youngsters and parents, as well as to the attitudes of children toward their parents. Indeed, Hirschi, as far back as 1969, noted that when individuals' bonds to society are weakened, engagement in deviant behavior is likely. Brook and colleagues (1988, 1990) have demonstrated that the parental attachment (the presence and quality of a warm, intimate, and continuous bond between parent and child) has a significant impact on the youngsters' drug use as well as on their psychological functioning.

This theoretical formulation hypothesizes that there are four separate, continuous dimensions important to the parent-child attachment relationship: (1) identification; (2) lack of conflict; (3) warmth, which refers to the lasting affectional bond between parent and child; and (4) involvement, which refers to the extent to which the parent centers attention on the child.

Attachment also serves to increase the probability that reinforcement by the parent of the child's conventional behavior is effective. Such attachment is a precondition for later identification with parental values and increases the likelihood that the youngster will imitate parental behavior. Indeed, it is believed that parental attachment increases the parent's influences over the child's development through the processes of identification, modeling, and reinforcement.

Another parent-child dimension, as noted by Becker (1964), is that of control vs. permissiveness. A controlling parental style is one in which the parent delineates rules for the child in a clear fashion, monitors the child's behavior, and applies consistent and contingent reinforcement to the child's behavior. Permissiveness is the opposite end of the continuum. The family interactional theory incorporates concepts from both social learning and social control theory (Bandura and Walters 1963; Hirschi 1983; McCord 1991).

PARENT-CHILD ATTACHMENT AND ADOLESCENT PERSONALITY

According to the family interactional theory, the parent-child mutual attachment is linked with the development of non-drug-prone personality characteristics in the child, which then serve to insulate the youngster from drug use. Several studies have focused on only one part of the attachment process. Nevertheless, their results still shed some light on the mutual attachment between the parent and the child. In general, these tend to show that aspects of the attachment relationship are implicated in the adolescent's psychological well-being (Coopersmith 1967; Gallagher 1976). In a related context, lack of an affectional identification and intimacy in communication appears to increase the probability of delinquent behavior (Hirschi 1969). In a series of studies, Radke-Yarrow and colleagues (1983) concluded that parental techniques of an affectional nature are positively related to prosocial outcomes. Thus, it would appear that the attachment relationship between the parent and child is related to the development of non-drug-conducive personality traits. The goal of this chapter is to look at several components of mutual attachment in the family interactional theory and determine whether they are linked to adolescent personality attributes that insulate the adolescent from drug use.

PARENT-CHILD ATTACHMENT AND ADOLESCENT PEER RELATIONS

With respect to the association between the parent-child attachment relationship and adolescent peer relations, it is assumed that the two domains are linked by aspects of the child's personality. In other words, it is assumed that a positive attachment relationship between the parent and child will be associated with the development of non-drug-prone personality characteristics, which will then influence the youngster to select nondeviant peer groups.

Although there is a dearth of literature looking at the relationship between the parent-child attachment relationship and adolescent peer relations, there have been several studies in this area attesting to such a linkage. For instance, in a longitudinal study done in Finland, Pulkkinen (1983) reported that children of child-centered parents were confident in social relations, responsible, and achievement oriented. In contrast, children of non-child-centered parents dated, smoked, and drank at an earlier age and were moody, impulsive, and not interested in school. Elliott and Voss (1974) reported that an abrupt weakening of family bonds puts the adolescent at risk for delinquency to the extent that bonding to conventional activities and context has not yet occurred, resulting in an overdependence on peers. Elder (1980), in a summary of results from several studies, reported that youths with close relationships to their parents often selected friends whose values were congruent with those of their parents. For example, students who achieved good grades tended to be close to their parents and socially competent with peers.

The author's view, as explicated in the family interactional theory and some of the evidence just cited, is that a close bond between parents and adolescent will result in the parents having a greater influence on their offspring, and this condition leads the adolescent to choose friends whose values are in accord with those of their parents. In other words, having traditional parents will predispose the adolescent to pick nondeviant friends.

PARENT-CHILD ATTACHMENT AND ADOLESCENT DRUG USE

Components of the parent-child attachment relationship have been found by many investigators to be associated with adolescent drug use (Brook et al. 1988; Coombs et al. 1991; Frankel et al. 1975; Hendin et al. 1985; Jessor and Jessor 1977; Mercer et al. 1978; Penning and Barnes 1982; Stanton 1979). As previously noted, attachment is an affectional bond between parent and child that is long lasting and of considerable intensity. Investigators have used several behavioral and psychosocial variables to measure parent-child attachment, including parental affection and involvement, an adolescent's closeness to and identification with the parents, and various aspects of the nature of the relationship between adolescents and parents. In addition, parental control insulates the youngster from drug use.

ECOLOGY

A previous section of this chapter considered the family interactional framework as it relates to adolescent drug use. A more complete understanding of the family will emerge only when the family is viewed in the larger context of ecological factors. Ecological factors discussed in this chapter include the school environment, victimization, and the street culture. Although the literature is scanty, there is some evidence that the school environment and the school culture have an effect on the child's development (Minuchin and Shapiro 1983). Certainly there is evidence that disassociation from school, as indicated by low academic achievement or underachievement and dislike of school authorities, is an important predictor of drug use by early or middle adolescence (Hawkins et al. 1985). Other ecological factors that hypothetically would foster drug use include neighborhoods characterized by physical deterioration and social disorganization and those in which victimization is always a possibility.

ACCULTURATION

Related to the ecological domain is the domain of acculturation. Because of the dearth of empirical evidence, it is not certain that any of the acculturation measures such as Hispanic activities, African-American activities, and familism would have a direct impact on the adolescent's drug use. However, it is believed that these measures might be important as interactive factors.

DRUG CONTEXT

Finally, to complete the overall model, it is hypothesized that the family domain is mediated by the personality and drug context domains. The drug context domain is conceptually seen as being closest to drug use and consists of those variables that are directly related to drug use. Several investigators have found that drug context variables such as availability and friends' use of drugs have a direct effect on the youngster's drug use (Ginsberg and Greenley 1978; Glynn 1981; Kandel and Andrews 1987; Krosnick and Judd 1982; Newcomb and Bentler 1987).

INTEGRATED MODEL

The hypothesized interrelation of the domains (i.e., ecological, acculturation, parent-adolescent relationship, adolescent personality traits, peer factors, drug context, and drug use) is diagrammed in figure 1. The direct effects on drug use are depicted as solid arrows. The drug use effects that are mediated are shown by dotted arrows between the boxes.

The acculturation and ecological influences on adolescent drug use are mediated by the adolescent personality and the parent-adolescent relationship domains. The parent-adolescent relationship domain affects the adolescent's personality, which in turn is related to the selection of peers, which then has an impact on the drug context domain. The adolescent drug context has a direct effect on the youngster's use of drugs. The adolescent personality, family, and peer domains also have direct effects.

Some of the relationships depicted as unidirectional may be reciprocal, for instance, the relationship between the parent-adolescent relations and the adolescent's personality. A causal flow from the parent-adolescent relationship domain to the adolescent personality domain is believed to be greater than the reverse. Overall, the author considers the relationships depicted in the model as probabilistic rather than universally definitive and therefore useful as guiding hypotheses in research.

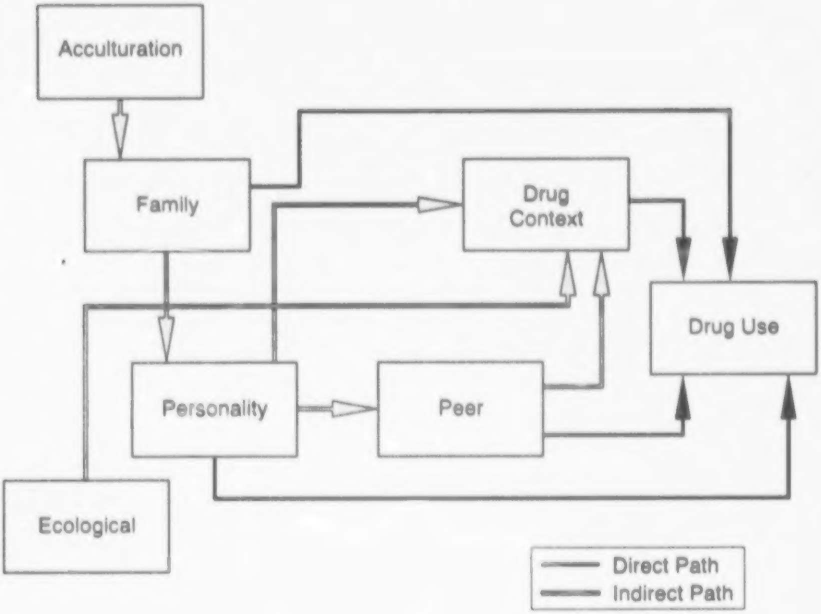

FIGURE 1. *Hypothesized model*

INTERACTIVE EFFECTS OF INDIVIDUAL WITH FAMILY, DRUG CONTEXT, ECOLOGICAL, AND ACCULTURATION FACTORS

It is important to look at the interaction of specific family characteristics with the larger social environment (drug context, ecological, and acculturation factors) when analyzing parent behavior. Family and situational conditions may not be additive but may have effects that are conditional on one another. Thus, the expression of the parent-child attachment may be dependent on the degree of familial orientation and its later impact on drug use. A number of interactionist models have been proposed (Magnusson and Allen 1983).

Based on previous research, the author postulates that a risk/protective mechanism describes the interaction of family with these situational conditions. In the case of the risk/protective mechanism, risk factors are mitigated by protective factors in the adolescent's family. A risk factor increases the adolescent's probability of drug use. For example, a peer risk factor would be peer deviance; a drug context risk factor would be peer marijuana use; an ecological variable would be school environment; and an acculturation variable would be ethnic activities. A protective factor leads to less drug use. An example of a family protective factor is parental warmth.

The risk/protective mechanism is illustrated in figure 2, in which a drug risk variable (peer deviance) is ameliorated by a family protective variable (father identification). As shown by the solid, sloping line, father identification offsets the potential risk of high peer deviance. Therefore, the focus on ethnicity involves two kinds of analyses. The first is concerned with whether the causal analysis described above is similar or different in the two ethnic groups. The second involves a comparison of protective mechanisms in the two groups. The extent to which the risk/protective mechanism may differ in the two ethnic groups is difficult to evaluate based on the literature. Therefore, this aspect of the study described below is quite exploratory. It is assumed that there will be some universal factors that serve as protective factors and some that will be specific to either African-Americans or Puerto Ricans.

METHOD

Subjects

The sample consisted of 695 African-American (400 males, 295 females) and 637 Puerto Rican (312 males, 325 females) adolescents in grades 7 through 10. The subjects were selected from 12 schools, primarily in the East Harlem

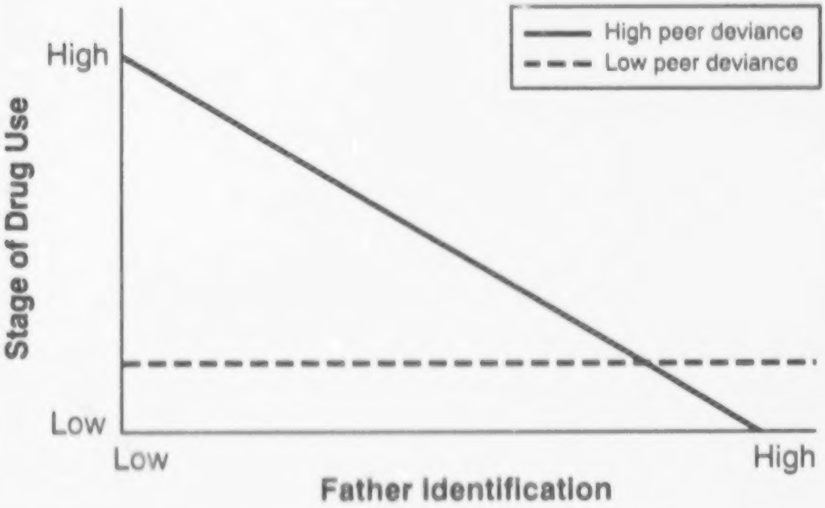

FIGURE 2. *Interaction of peer deviance and father identification*

area of New York City. The schools were specifically chosen to obtain a sufficient number of African-American and Puerto Rican students living in inner-city areas. The subjects were asked to volunteer during classroom orientation sessions. Those who agreed signed consent letters. Passive consent letters were then sent to their parents. Each student who participated received a tape player as an incentive. In one school, $6 vouchers for use in the school store were substituted.

Measures

The scales used in this research are based on item intercorrelations and reliabilities and are grouped into six domains: (1) adolescent personality characteristics, (2) family relations, (3) peer factors, (4) ecological variables, (5) acculturation measures, and (6) drug context variables. Several of the scales are adaptations of measures previously used in other studies. The scales had to be adapted to ensure their linguistic and cultural relevance. The scales, their sources, and their reliabilities appear in table 1.

Based on Kandel's stages of drug use (1975), a measure of increasing involvement in illicit drugs was developed. At the lowest level is no drug use, legal or illegal. The next level is legal drug use (i.e., alcohol or tobacco). The next higher stage is marijuana, and this is followed by the highest stage, which consists of the use of illicit drugs other than marijuana (e.g., amphetamines, phencyclidine [PCP] or angel dust, cocaine, crack, hallucinogens, heroin, methaqualones, barbiturates, "ecstasy," methamphetamine hydrochloride [ice]).

The following shows the number of individuals at each stage of drug use: No drug use=373 African-Americans, 327 Puerto Ricans; legal drug use only=260 African-Americans, 212 Puerto Ricans; marijuana use=30 African-Americans, 50 Puerto Ricans; other illicit drug use=32 African-Americans, 48 Puerto Ricans. Puerto Ricans reported greater illegal drug use than African-Americans: $\chi^2(3, n=1{,}332)=13.6, p<.05$. There were no sex differences in drug use among the Puerto Ricans, but African-American females reported greater use than African-American males: $\chi^2(3, n=695)=10.49, p<.05$.

RESULTS

Pearson correlations were computed between the adolescent's stage of drug use and the personality, family, peer, drug context, ecological, and acculturation factors. The correlations were computed separately for the African-Americans and the Puerto Ricans and appear in table 2.

As shown in table 2, variables in four of the domains (personality, family, peer, and drug context) were highly related to the youngster's stage of drug use. More than 60 percent of the variables in these domains were significant.

TABLE 1. *Sources and reliabilities of scales*

Scales by Domain	Source	Alpha
Adolescent personality, behavior, and attitude		
Tolerance of deviance/risk taking	Jackson 1974; Jessor et al. 1968	.67
Achievement	Jackson 1974	.59
Hardworking	Jackson 1974	.43
Rebellion	Smith and Fogg 1979	.66
Ego integration	Original	.56
Depression	Derogatis et al. 1974	.61
Anger at discrimination	Original	.83
Self-deviancy	Gold 1966	.77
Drug risk	Johnston et al. 1987	.89
Sexual activity scale	Newcomb and Bentler 1988	.68
Family		
Mother warmth	Avgar et al. 1977; Schaefer 1965	.79
Mother control	Avgar et al. 1977; Schaefer 1965	.51
Mother nonconflictual relations	Schaefer and Finkelstein 1975	.77
Mother identification	Original	.80
Mother cigarette use	Original	
Mother alcohol use	Original	
Mother tranquilizer use	Original	
Father warmth	Avgar et al. 1977; Schaefer 1965	.89
Father control	Avgar et al. 1977; Schaefer 1965	.65
Father nonconflictual relations	Schaefer and Finkelstein 1975	.82
Father expectations	Avgar et al. 1977	.79
Father time spent	Original	.67
Father identification	Original	.86
Father cigarette use	Original	
Father alcohol use	Original	
Father tranquilizer use	Original	
Sibling marijuana use	Original	
Sibling other illegal drug use	Original	
Parents vs. peers	Original	.55
Significant other warmth	Avgar et al. 1977	.76
Peer		
Time spent with peers	Original	.45
Achieving peers	Original	.61
Peer deviancy	Gold 1966	.68
Ecology		
School environment	Original	.36
Victimization	O. Rodriguez, personal communication, June 1989	.88
Street culture	O. Rodriguez, personal communication, June 1989	.65
Acculturation		
Hispanic activity	Padilla 1980	.76
African-American activity	Original	.77
Familism	O. Rodriguez, personal communication, June 1989	.62
Drug Context		
Drug availability	Johnston et al. 1987	.92
Peer cigarette use	Original	
Peer alcohol use	Original	
Peer marijuana use	Original	
Peer other illegal drug use	Original	

TABLE 2. *Correlations of variables with stage of drug use*

Measures	African-Americans	Puerto Ricans
Personality/behavior/attitudes		
Risk taking	.32***	.34***
Achievement	-.22***	-.24***
Hardworking	-.06	-.09*
Rebellion	.24***	.25***
Ego integration	-.17***	-.20***
Depression	.13***	.12**
Materialism	.13***	.14**
Discrimination	.04	.03
Self-deviancy	.41***	.44***
Drug risk	-.14***	-.07
Sexual behavior	.21***	.26***
Family		
Mother warmth	-.14***	-.14***
Mother control	-.03	-.01
Mother conflictual environment	.22***	.26***
Mother identification	-.24***	-.16***
Father warmth	-.10*	-.15***
Father control	-.06	.04
Father conflictual environment	.11**	.20***
Father expectations	-.09*	-.06
Father time spent	-.11**	-.14***
Father identification	-.15***	-.15***
Parent vs. peer	.22***	.24***
Sibling marijuana use	.34***	.31***
Sibling illegal drug use	.20***	.19***
Mother alcohol	.13***	.16***
Father alcohol	.11**	.19***
Peer		
Time spent with peers	.10**	.14***
Achieving peers	-.23***	-.18***
Peer deviancy	.20***	.23***
Drug context		
Peer alcohol	.23***	.26***
Peer marijuana	.33***	.36***
Drug availability	.13***	.13***
Acculturation		
Hispanic activities		-.03
African-American activities	-.01	
Familism	-.07	-.05
Ecology		
School environment	-.15***	-.09*
Victimization	.05	.06
Street culture	-.11**	-.06

*p<.05; **p<.01; ***p<.001

A second finding of significance is that several specific variables in each of the domains were found to be related to the youngster's stage of drug use. For example, within the personality domain, youngsters at higher stages of drug use were more involved in risk-taking behavior, reported lower achievement, tended to be more rebellious, reported greater intrapsychic distress, and were more involved in delinquency and early sexual behavior. Within the family area, aspects of the mutual attachment relationship such as parental warmth, a nonconflictual environment, identification with the parent, and an orientation to parents rather than peers seemed to insulate youngsters from drug use. With regard to peer factors, higher stages of drug use were associated with having friends who are nonachievers and friends who are involved in delinquency. As for the drug context area, availability and peer drug use are related to the youngster's drug use. Variables in two distal sets, ecology and acculturation, appeared to be of lesser importance. The third major finding is that the risk factors associated with drug use in African-Americans are similar to those identified in Puerto Ricans. And, finally, the risk factors identified as being important in the youngsters' drug use are similar to those found in other populations (Brook et al. 1990).

Next, each of the independent variables by the demographic variable (i.e., sex, age, and mother's educational level) was examined to see whether the independent variables interacted with the demographic factors. To make this examination, the author and colleagues ran a series of regressions, examined the interaction, and after entering all the variables in each of the domains, looked at each independent variable and its interaction with the demographic factors. More than 95 percent of the demographic interactions were not significant. Therefore, it appears that various measures give similar predictions for the various sex, age, and maternal education groups.

An attempt was made to determine whether the empirical findings supported the hypothesized model (see figure 1). To examine the family interactional model, hierarchical multiple regression analysis was used. First, each domain was looked at without controls. Then each domain controlling for the domains next in sequence was examined.

As shown in table 3, what is common to both the African-Americans and the Puerto Ricans and supportive of the model is the importance of the three domains (family, personality, and drug context), each of which has a direct and relatively independent effect on drug use. It also should be noted that the R^2 for the family set also drops with control on the personality and drug context domains. Moreover, the R^2 for the personality set drops with control on the drug context set. Therefore, for both ethnic groups the following pathways are also supported: (1) The family has a distal influence on drug use via the personality and drug context domains; (2) the personality domain is mediated

TABLE 3. *R^2 explained in stage of drug use for sets of variables*

	No Control		With Control on the Domains Listed Below and Next in Sequence in Model											
			Acculturation		Ecology		Family		Personality		Peer		Drug Context	
Sets	AA	PR	AA	PR	AA	PR	AA	PR	AA	PR	AA	PR	AA	PR
Acculturation	.01	0	—	—			0	0						
Ecology	$.03^{***}$	$.02^{*}$			—	—							$.01^{*}$	.01
Family	$.20^{***}$	$.19^{***}$					—	—	$.08^{**}$	$.06^{**}$	$.15^{**}$	$.13^{**}$	$.11^{**}$	10^{**}
Personality	$.21^{***}$	$.23^{***}$							—	—	$.16^{**}$	$.17^{**}$	$.12^{**}$	13^{**}
Peer	$.06^{***}$	$.06^{***}$									—	—	$.01^{*}$	0
Drug context	$.12^{***}$	$.14^{***}$											—	—

$^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$; F tests were computed; R^2 for drug context with control for each domain in sequence was significant.

KEY: AA=African-American; PR=Puerto Rican by the drug context domain; and (3), as hypothesized in the model, the drug context domain is correlated with drug stage despite control on the remaining domains.

Some lack of support for the model in both ethnic groups occurs in the case of the acculturation domain. For instance, the acculturation domain is not mediated by the personality and family domains as was hypothesized. Among African-Americans, the drug context domain does not serve as a mediator for ecological influences. A nonhypothesized path emerged in both ethnic groups. The peer domain does not have a direct effect on drug use in either ethnic group, but is mediated by the drug context domain.

The family interactional theory's emphasis has been on the role of family variables as protective factors interacting with broader social influences. The protective features of the family may act as mitigators of risk factors. A series of two-way interaction terms was computed to examine the following interactions postulated in the introduction: (1) family variables by drug context, (2) family factors by ecological variables, (3) family variables by acculturation, and (4) family factors by peer.

A series of hierarchical regression analyses was run to determine which interaction terms were related significantly to the adolescent's stage of drug use. To reduce the total number of interactions examined, the two variables that were most highly related to drug stage in each of the domains were included as risk factors. For each significant interaction term that emerged, the relationship between adolescent drug use and a family variable was plotted separately for each of the conditional variables (acculturation, drug context, peer, and ecology). For each of these conditional variables, the drug-family relationship was plotted for 1 standard deviation (SD) above the mean and 1 SD below the mean. As shown in table 4, the risk factors for the African-Americans stemming from the domains of drug context, acculturation, ecology, and peer were offset by low family drug use and a close mutual attachment relationship between the parent and the child. A similar pattern appeared for the Puerto Ricans, as shown in table 5. The results further suggest that there are several general protective buffers for African-Americans and Puerto Ricans.

Ethnic differences in protective factors also emerged. Because the drug context domain is most proximal, it was decided to focus on that domain as an important risk area. For African-Americans, models of low drug use in the family were more important as buffers for the drug context domain than the attachment and control variables. In contrast, for the Puerto Ricans, attachment and control variables were of greater importance than the drug modeling as buffers for the drug context domain.

TABLE 4. *African-Americans: Interactions involving amelioration of risk factors by protective family factors resulting in lower stage of drug use*

Risk Factor	Family Protective Factor Ameliorating Risk Factor	Significance Level for Two-Way Interaction
Drug context		
Peer marijuana use	Low mother tranquilizers	*
	Low father tranquilizers	*
	Parent oriented	**
Peer alcohol use	Low mother cigarette use	**
	Low mother alcohol use	*
Peer		
Peer deviance	Low mother tranquilizers	*
	Parent oriented	**
Low peer achievement	Low father tranquilizers	*
	Mother identification	**
	Father identification	**
	Parent oriented	**
Ecological		
Street culture	Low sibling illegal drug use	**
	Low mother alcohol use	**
	Low father tranquilizers	*
	Father warmth	*
	Father identification	**
	Mother identification	**
School	Low sibling illegal drug use	**
	Parent oriented	*
Acculturation		
African-American activities	Father nonconflictual environment	*
Familism	Father expectations	*
	Mother tranquilizers	**

NOTE: Significance level for two-way interaction based on t value; *$p<0.05$; **$p<0.01$

TABLE 5. *Puerto Ricans: Interactions involving amelioration of risk factors by protective family factors resulting in lower stage of drug use*

Risk Factor	Family Protective Factor Ameliorating Risk Factor	Significance Level for Two-Way Interaction
Drug context		
Peer marijuana use	Sibling marijuana use	**
	Mother control	**
	Father warmth	**
	Father control	**
	Father expectations	*
	Father identification	*
Peer alcohol use	Mother control	*
	Father warmth	*
	Father expectations	**
Peer		
Peer deviance	Mother tranquilizers	**
	Mother control	*
Peer achievement	Mother warmth	**
	Mother identification	*
Ecological		
School, street culture	Low mother cigarette use	*
	Low father cigarette use	**
	Low father tranquilizers	*
	Low sibling marijuana use	**
	Low sibling illegal drug use	*
	Mother identification	*
Acculturation		
Low familism	Mother tranquilizers	*
Low Hispanic activities	Mother tranquilizers	*

NOTE: Based on t values; *$p<0.05$; **$p<0.01$

DISCUSSION

The results of this study lend some support to the developmental model derived from family interactional theory for both African-Americans and Puerto Ricans. Domains of personality, family, and drug context have a direct influence on the adolescent's stage of drug use. Thus, drug-prone personality characteristics are associated with a higher drug stage despite the existence of a benign family and a non-drug-context environment. Similarly, the family risk factors are associated with higher stages of drug use despite the existence of a drug-resistant personality and a non-drug-context environment. At the same time, drug-context factors are related to a higher drug stage despite the existence of benign personality traits and a drug-resistant family environment.

In addition to the direct paths, the indirect paths of the family interactional model receive support as well. The family interactional formulation presented here stresses the importance of the adolescent's attachment to his or her parents. The findings confirm an association between a nonconflictual and affectionate mutual attachment relationship and drug-resistant personality traits in the adolescent. It is important to note that both the mother-child attachment and the father-child bond are significant. The formulation also stresses the importance of siblings, and the data show a highly significant correlation between sibling and adolescent drug use.

A drug-resistant adolescent is one who is not a risk taker, is achievement oriented, and is able to delay immediate for future gratification. Such a youngster is unlikely to associate with peers who use drugs and does not need to turn to drugs to express his or her need for external stimuli or to cope with inner turmoil.

The hypothesized pathways between the acculturation, ecological, and peer domains are not supported in the present study. It is surprising that the peer domain did not have a direct effect on the adolescent's drug stage in either the African-American or the Puerto Rican groups. In previous studies (Jessor and Jessor 1977; Kandel et al. 1978; Oetting et al. 1989), peer influences have had a direct effect on adolescents' use of drugs. In much of the previous research, peer influences referred mainly to peer drug use. Once peer drug use is removed from the nondrug aspects of the domain (e.g., peer achievement), the direct effect of peers seems to disappear. Thus, it may be that a more differentiated view of peer effects is called for. When speaking about peer drug-modeling effects, the effects are direct, but when viewing the more generalized peer influences, the effects may be attenuated. It is also noteworthy that the relationship between the peer and personality domains may be reciprocal. That is, personality factors may affect the selection of peer group members. In turn, involvement in a particular peer group may influence the individual's personality. Thus, the results indicate that in accordance with the hypothesized model, there is evidence of the personality, peer, drug domain sequence. The nonhypothesized findings reveal a flow or pathway from peer to personality to drug variables.

In general, the pathways leading to drug use in African-Americans and Puerto Ricans suggest the following sequence: A mutual attachment relationship characterized by an affectionate and nonconflictual parent-child bond is associated with the adolescent's internalization of his or her parents' conventional attitudes and behavior. (This assumption is based on previous research [Brook et al. 1990] that indicates that parental conventionality is based on a secure mutual attachment and that such an attachment is related to adolescent conventionality.) The adolescent's conventionality is associated with the selection of more achieving and less deviant peers who do not use drugs. It serves to insulate that adolescent from a drug environment and drug use. Although conventionality is the major causal pathway as noted above, some personality, family, and drug context influences also have a direct effect on drug use. In addition, ecological influences affect the drug context domain, which is implicated in the adolescent's drug use.

Before a discussion of the implications of the study, two methodological issues need to be addressed. First, because the adolescents studied live in an inner-city area characterized by high rates of drug use and crime, the ability to generalize is limited. Second, greater attention needs to be paid to the operationalization of acculturation and the extent to which the scales assessed the various aspects of this important concept.

The family interactional model tries to differentiate among four dimensions of acculturation: (1) language preference and usage, (2) cultural heritage, (3) ethnic pride and identity, and (4) interethnic interactions. This acculturation may be multidimensional. In assessing its effects, one must remember that acculturation involves the assimilation of the new culture by individuals at the same time that they retain the values of their origin (Padilla 1980; Szapocznik et al. 1980). In addition, present research (e.g., Padilla [1980] with Hispanics, Szapocznik and colleagues [1980] with Cubans, and Rogler and Cooney [1984] with Puerto Ricans) indicates that a discrepancy between parent and adolescent levels of acculturation may cause conflict, which may in turn result in the adolescents returning to their peer group for social rewards, thus increasing their risk for problem behaviors.

So far, the data presented here, as well as in a number of unpublished analyses, indicate that acculturation does not have a direct effect on an adolescent's drug use. It may be that the measuring instruments were not sensitive enough to assess the multidimensional nature of acculturation. Another possibility is that acculturation is complex and needs to be looked at in interaction with other risk factors. Preliminary analyses based on unpublished data suggest that acculturation proper serves as a buffer for risk factors such as unconventionality and negative peer influence. Firmer conclusions regarding the interactional nature of acculturation await further analyses. Despite these limitations, the study has several important results.

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A major finding of this research is that single risk factors from each of the domains are also related to drug stage for both African-Americans and Puerto Ricans. These specific risk factors from five of the domains have been found to be of importance in studies of white adolescents as well (Newcomb and Bentler 1988). Major risk factors include risk-taking behavior and lower achievement (in the personality area), less mutual attachment (in the family domain), low peer achievement (in the peer domain), peer drug use (in the drug context domain), and school environment (in the ecology area). In general, it appears that many of the risk factors associated with drug use are significant in both African-Americans and Puerto Ricans. Moreover, as previously noted, the causal pathways are similar in both ethnic groups.

The importance of family protective factors are highlighted by the study's findings that they serve as buffers for risk factors stemming from four major areas: drug context, peer, ecology, and acculturation. These family protective factors are operative in both groups. Consistent with the literature on the importance of familism among Puerto Ricans, the attachment variables more often served as protective factors against risks than did models of non-drug use (Coombs et al. 1991). Among African-Americans, parental models of non-drug use more often than attachment variables served as protective factors. Adding to the support for this differential finding is the fact that Puerto Ricans scored higher on familism than did African-Americans. The data suggest the appropriate targets or domains for intervention among African-American and Puerto Rican adolescents. It would seem that the family, personality, and drug context domains qualify for intervention targets because they show direct effects on drug use. However, the acculturation, ecology, and peer domains are limited in their direct impact on drug use. Once the influence of peer drug modeling is removed from the peer domain, its ability to have direct effects is limited.

A second consideration in evaluating the target is the degree to which a particular target affects drug use, that is, what portion of the variance in the dependent variable is accounted for by a potential target. Because the personality and family domains contribute greater variance than the others, intervention in these areas would prove most efficacious in preventing drug use.

A third approach to intervention would make use of the sequencing of the domains. Thus, an earlier intervention may prevent the risk factors with which it is correlated from emerging at a later time. If one wished to intervene early in the causal chain of events, intervention should take place at the family level and should be geared to altering the attachment relationship and familial drug models. Changes in the attachment relationship should lead to changes in the adolescent's personality characteristics. As the author has theorized, a strong parent-child bond is associated with strong internalization of parental values, behavior, and attitudes. A strong parent-child attachment may also provide children with the feeling that they can control what happens to them and that they can acquire the problemsolving skills needed to do so.

A later point of intervention might be directed at altering the adolescent's personality toward greater conventionality, which would lead to avoidance of drug context environments. Finally, one might also intervene at the drug context level. Removing an adolescent from a drug environment should reduce drug use in the adolescent. Overall, the implication of these connections is that one can break into the causal chain leading to drug use at similar critical points in both African-Americans and Puerto Ricans.

A fourth way of conceptualizing intervention stemming from this research involves the interaction of risk and protective factors. Because cross-sectional data are being used, the interactional findings become particularly important. They do not depend on temporal sequencing of interventional targets. For example, intervention in a current negative family situation may therefore serve as a protective factor for risks stemming from current drug context. Furthermore, the interactional results indicate differences between the African-Americans and Puerto Ricans with respect to family protective factors. There is also the suggestion that the important risks stemming from drug context can be altered by family protective factors.

Results of the present study suggest several directions for future research. First, future research using prospective designs would enable more investigators to make confident causal inferences. In addition, there remains a need for indepth studies of the nature of the parent-child attachment and how this affects the child's ultimate drug behavior. These findings indicate that a more complete understanding of the etiology of drug use in African-American and Puerto Rican adolescents requires incorporation of socialization influences. The findings also highlight the importance of understanding the many child-rearing factors that affect the drug behavior of African-American and Puerto Rican adolescents.

A theoretical focus on the dimensions of each domain is also needed. For example, a mutual attachment includes a relationship characterized by affection, responsiveness to the child, and empathy. Further study might elaborate on the relationship of each of these components of attachment to the family and the social context of drug use.

Future researchers should further study the interaction of risk and protective factors. The study described in this chapter identified some family protective factors that are universal and others that are more specific to either African-Americans or Puerto Ricans. Further elucidation of both general and specific buffers in different ethnic groups should contribute greatly to an understanding of how to reduce drug use in different ethnic groups.

This investigation was limited mainly to psychosocial factors. There are additional frameworks that span a broader range of disciplines, including the neurobiological, and involve data from other species and other cultures. Future investigations of adolescent drug use will undoubtedly benefit from studies that incorporate these broader orientations in a more complete interdisciplinary approach.

Recently, there has been an increase in behavioral genetic research. In addition, one can anticipate that there will be increasing attempts to apply the theory and methods of molecular/biological genetics to the study of drug use. Understanding the nature of such genetic influences at different levels of interaction with environmental influences should further explain the etiology of drug use.

NOTE

1. A direct effect refers to impacts that are not mediated by other domains in the causal model presented in figure 1. The term is not meant to preclude hypothetical mediators that may be included in other models.

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Network Theory: A Model for Understanding Drug Abuse Among African-American and Hispanic Youth

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INTRODUCTION

An impressive amount of research has established that youth are likely to behave in a manner consistent with the behavior of their friends (for a review, see Akers 1985). In accounting for deviant behavior, friends' drug use or delinquency is perhaps the strongest and most consistent correlate of adolescent misbehavior (Conger 1976; Kandel 1978*a*; Kornhauser 1978). It is therefore surprising that more is not known about why this relationship exists. Not only is the causal order of these variables in question (Thornberry 1990), but also little is known about the structure of friendship networks or the processes that generate the similarity in behavior patterns.

The relative ignorance concerning the nature of these friendship networks is due, in part, to the fact that theories of adolescent misbehavior have focused only on the existence of such networks (e.g., differential association theory) or on a particular characteristic of the network (e.g., social control theory's emphasis on attachment).[1] The recent introduction of principles derived from the social network perspective on criminology (Friday and Hage 1976; Krohn 1986) has emphasized the importance of the structural characteristics of the social network in understanding the influence of peer networks on behavior. A few research studies have begun to compare structural characteristics of the social networks of delinquents and drug users with those of nondelinquents and abstainers (Gilmore et al., in press; Hawkins and Fraser 1985; Kandel and Davies 1991; Krohn et al. 1988). Given the limited number of studies devoted to this issue and limitations in their focus and methodology, however, little is known about differences in the structural characteristics of social networks of drug users and nonusers.

The present study responds to this gap in knowledge by comparing the characteristics of the social networks of alcohol and marijuana users with those of nonusers among a sample of racially diverse, inner-city adolescents. Particular attention is directed at whether there are differences in the network characteristics of users and nonusers among adolescents of different ethnic and racial groups.

Social Network Perspective

The social network perspective is rooted in the work of Simmel (1922), sociometric analysis (e.g., Moreno 1947), and formative work in cultural anthropology (e.g., Bott 1957). This perspective has had diverse sociological applications, but work in the area of urban or community sociology (Fischer 1982; Fischer et al. 1977; Laumann 1973; Wellman and Leighton 1979) and that which focuses on social networks as social support systems (Lin et al. 1986) are most relevant to its use in studying drug use.

A social network is defined as a "specified set of links among social actors" (Fischer et al. 1977, p. 33). Thus, the focus of network analysis is on the structure and content of those links rather than on the individual characteristics of the actors. How a network is structured and where a particular individual is within that set of relationships are considered important in determining the behaviors of the individual actors involved in the network.

The social network perspective assumes that all social networks constrain the behavior of their participants to some extent. However, the degree of constraint depends on the structure of the social network, how tightly the person is integrated into it, how central it is in the person's life, how it links to the person's other networks, how stable the network has been, and so on. Of course, the type of behavior in which network members participate affects the type of behavior to which any member is constrained.

Drug use is likely whenever an individual is enmeshed in some, and especially many, networks that allow or encourage such behavior. This is especially the case if the networks are interlocking, for example, if the friends not only hang out in the person's neighborhood but also attend the same school. On the other hand, conventional behavior is likely when the person is enmeshed in interlocking networks that reward conformity, for example, peer groups organized around school activities or athletics.

The present study focuses on the homophily, density, intimacy, multiplexity, and stability of social networks. A review of prior research on the social networks of drug users and delinquents that has examined these characteristics is organized around these concepts.

Structural Characteristics of Networks and Drug Use

Homophily refers to the similarity of friends in terms of a number of attributes, including both personal characteristics such as race and attitudes and behaviors such as the use of drugs (Kandel 1978*b*, 1985; Wister and Avison 1982). People generally select friends of similar age and of the same gender, race, and neighborhood. There is no reason to assume that the social networks of drug users would not also be homophilic, and Kandel (1985) has found that the most likely attributes shared by friendship pairs of all adolescents are sociodemographic characteristics such as age and gender. Given the illegal nature of substance use, users may be more likely to form friendship networks with other users whom they feel they can trust. Indeed, Kandel (1985) found that common behaviors such as illicit drug use are the next most shared characteristic. Research that compares users with nonusers has found that although there are few differences regarding the similarity of sociodemographic characteristics among users and nonusers (Kandel and Davies 1991), users are more likely to share behavioral characteristics than are nonusers (Kandel and Davies 1991; Wister and Avison 1982).

Density refers to the degree to which each member of a social network knows or likes all other members of the network. The greater the density, the more constraint the network is expected to have over the behavior of its members, because behavior that is not approved by the network and is committed in front of one member soon becomes known by other members and, therefore, might jeopardize more friendships. Few differences have been observed in the density of social networks of users and nonusers (Wister and Avison 1982; Hawkins and Fraser 1985; Kandel and Davies 1991).

Social networks also can be characterized by how intimate or supportive the relationships are among members. Kandel and Davies (1991) found no significant differences in the degree of intimacy or support provided by friends of users and nonusers, and Giordano and colleagues (1986) presented similar findings regarding delinquents and nondelinquents.

Multiplexity refers to the number of different role relations any two people have with one another or the number of contexts in a relationship (Fischer et al. 1977). Krohn (1986) has suggested that if an adolescent is involved with members of his or her personal networks (including peer networks) in more than one conventional context (e.g., school and church), then his or her behavior will be more constrained and deviance will be less likely. However, if an adolescent is involved in multiple contexts that are not supervised, deviance will be more likely. Krohn and colleagues (1988) found that joint participation across a number of conventional contexts with both parents and friends reduced the likelihood of adolescent cigarette smoking. Hawkins and Fraser (1985) found that the social networks of opiate abusers contained fewer members from conventional settings and more from illegal business contacts than did the networks of users of less potent drugs.

The stability of friendship networks has seldom been examined, yet it might be one of the more important characteristics of friendship. Although there may be a tendency for respondents to indicate warm feelings toward their friends or that their friends help them (both are part of the definition of friendship), stability is a more objective behavioral manifestation of the closeness of friendship. Stability most often has been measured by a question asking respondents how long their friendships have lasted (Giordano et al. 1986; Hawkins and Fraser 1985). When measured in this fashion, friendships among delinquents have been as stable as those among nondelinquents (Giordano et al. 1986).

To date, knowledge of the characteristics of social networks among those who use drugs or commit delinquent behaviors is limited to research from a small number of studies. Few have systematically measured the five network characteristics mentioned above, and some studies have not included comparison groups of non-drug users.

Social Networks and Ethnicity

Prior research has demonstrated that there are differences in some structural characteristics of social networks and the relative importance of those networks among Hispanics and African-Americans when compared with those of whites. Perhaps because of their minority status and the discrimination that may limit the range of their social networks, Hispanics and African-Americans rely more on their families for social support than do whites (Becerra 1988; Sánchez-Ayéndez 1988; Delgado and Humm-Delgado 1982; Booth et al. 1990; Clark 1989; Singleton 1989; Gfoerer and De La Rosa, in press; De La Rosa 1988). For these groups, the family often refers not only to the nuclear family but also to an extended family of relatives and special neighbors (Delgado and Humm-Delgado 1982). Whereas whites are likely to seek help from friends and neighbors, Hispanics and African-Americans are more likely to call on their extended family network.

One consequence of the reliance on the family for social support is that the family takes on greater importance in insulating individuals from the stress of daily life (De La Rosa 1988). Hence, disruptions in family relationships may lead to drug use as a form of rebellion against family control (Booth et al. 1990). Hispanics may also be affected by the impact of acculturation on traditional family relationships. Hence, some studies have found that adolescents from more acculturated Hispanic families are more likely to use alcohol and other drugs (De La Rosa et al. 1990; Booth et al. 1990; Gfoerer and De La Rosa, in press).

The friendship networks of Hispanics and African-Americans also appear to be different from those of whites. Children of all races appear to prefer friends of the same race (Hallinan and Teixeira 1987); however, white students tend to be more ethnocentric (Clark 1989). Clark (1989) suggests that it is more difficult for African-Americans than for other ethnic/racial groups to establish close friendship ties with peers who attend the same school, which leaves the adolescent without adequate support to deal with the stress associated with school-related problems. Also, it results in African-American students being more likely than students from other ethnic groups to develop friendships with neighborhood youngsters regardless of whether they attend the same school. Ayers and Clark (1985) found that African-American adolescents were more likely to live within walking distance of their best friends than were white adolescents. White adolescents were more likely to see their friends in school or church, whereas African-Americans saw friends more often in public settings. This may result in friendship networks being centered around arenas that are unsupervised and, therefore, allow for misbehavior (Selno and Crano 1986).

Summary

Peer and family networks clearly have an important role in determining the behavior of adolescents, including illegal behavior such as drug use and underage drinking. However, it is not as clear how these social networks function to affect behavior. The social network perspective suggests that the structural characteristics of friendship and family networks be examined to address this question. In doing so, particular attention must be paid to the differences in the characteristics of social networks for different ethnic groups. Prior research has established that the social networks of African-Americans and Hispanics differ from those of whites. These differences, in turn, could account for variations in the relative influence of these networks in generating the aberrant behaviors. For example, Newcomb and Bentler (1986) found that peer use of drugs was least important for African-Americans compared with whites, Hispanics, and Asians.

The dearth of research on the structural characteristics of the social networks of drug users compared with those of nonusers is unfortunate because it is known that there is a strong relationship between having friends who use drugs and drug use. In order to understand how those networks influence or are influenced by such behavior, it would be helpful to determine whether there are any differences in the network characteristics of users and nonusers. Therefore, the present study provides descriptive information on network characteristics of alcohol and marijuana users and compares these with the characteristics of nonuser networks to better inform the etiology of drug use and the development of intervention programs.

METHODS

Data for the present analysis are drawn from the Rochester Youth Development Study (RYDS), which examines the development of drug use and delinquent behavior in a high-risk, urban sample. The RYDS is a seven-wave panel study in which each student and the person who has primary responsibility for his or her care (usually a parent) are interviewed at 6-month intervals. Data are also collected from the Rochester schools, police department, and other agencies that serve youth. A focus on adolescent friendship networks and drug use began with Wave 2 data collection; therefore, the present analysis is based on data from Waves 2 through 4.

Sample

The sample consists of 987 students who attended the seventh and eighth grades of the Rochester city public schools during the 1987-88 academic year. To ensure that serious, chronic offenders are included in the study, the sample overrepresents high-risk youth in the following manner. Males are oversampled (75 vs. 25 percent) because they are more likely to be chronic offenders and to engage in serious delinquent behavior than are females. In addition, students are selected proportionately to the resident arrest rates of the census tracts in which they lived at the time the sample was drawn. Thus, students from the areas of the city with the highest rates of arrest are proportionately overrepresented, and students from the lowest arrest rate areas are proportionately underrepresented. Because the true probability of a youth living in a particular census tract is known, the strategy of weighting the cases is able to produce a quota proportionally allocated sample. The sample is weighted by a factor that is inversely proportionate to the probability of being selected from a particular census tract in the analyses that follow.[2]

The current analysis is based on the 885 adolescents for whom Wave 2 through Wave 4 interviews were completed. This represents 90 percent of the initial sample. Characteristics of respondents for Waves 2 through 4 are comparable (see table 1), with only slight differences in terms of age, sex, ethnicity, and resident arrest rates of census tracts. The resulting sample at Wave 2 was 68.5-percent African-American, 16.4-percent Hispanic, and 15.1-percent white. Students ranged in age from 12 to 15 years at Wave 2, although more than 70 percent were 14 and 15. These proportions are close to what was expected given the population characteristics of the Rochester schools and the decision to oversample high-risk youth.

Interviews with students are conducted by the RYDS staff in private rooms provided by the school. If the student cannot be contacted in school, he or she is interviewed at home. Interviews are about an hour in length.

TABLE 1. *Characteristics of the unweighted sample at Waves 2, 3, and 4 (percent)*

Characteristic	Wave 2	Wave 3	Wave 4
Age at Wave 2			
< 13	1.8	2.0	2.0
13	26.2	26.7	26.4
14	43.3	44.4	44.2
> 14	28.7	27.0	27.5
Sex			
Male	72.5	72.6	72.7
Female	27.5	27.4	27.3
Ethnicity			
African-American	68.5	68.4	68.0
Hispanic	16.4	16.5	16.5
White	15.1	15.1	15.5
Census tracts grouped by resident arrest rates			
1=highest	32.4	33.4	32.9
2	32.2	31.8	32.5
3	18.5	18.1	17.9
4	9.9	9.7	9.5
5	5.2	5.2	5.4
6=lowest	1.8	1.8	1.8

Measurement of Variables

To obtain detailed information concerning adolescents' friendship networks, respondents are asked to name their three best friends. A series of questions is then asked concerning demographic characteristics and behaviors of each of these friends. Network measures such as homophily, density, intimacy, multiplexity, and stability are limited to the network that includes up to three of the respondent's best friends. Although an open-ended format in which the respondents are allowed to list all their friends followed by specific questions regarding their characteristics would be preferable, time constraints did not allow for this.

The homophily of a respondent's network is measured with a series of items asking whether each of the three best friends is of the same age, sex, race, school, grade, and neighborhood as the respondent. The more friends who are similar in these characteristics to the respondent, the more homophilic the network. Each characteristic is treated separately because of the possibility that it will be differentially related to drug use. A separate question asking whether the respondent has a girlfriend or boyfriend is included to further specify the question of the sex of the respondent's friends.

In addition to the items measuring homophily in terms of sociodemographic characteristics, homophily is also measured in terms of the drug-using status of friends. To measure the drug-using status of the friendship network, a four-item scale asks respondents how many of the kids that they hang around with most often use alcohol, marijuana, crack, or other hard drugs. Although information concerning the drug-using status of each named friend would have been preferable, a pretest demonstrated that at these ages, respondents are very reluctant to provide reports of the drug use of specific friends and pushing them to do so could jeopardize the overall panel study. Hence, the not unreasonable inference must be made that a respondent's best friends are among those that he or she is most likely to hang around with.

Network density is measured by calculating the number of friends within a network who like one another divided by the total number of possible links. Because it is possible that friend #1 may like friend #2, but friend #2 may not like friend #1, the total number of possible links is six rather than three.

The intimacy of the friendship network is measured by asking how often the respondent seeks six different types of support from each of the three friends. The types of support include talking to friends about personal things, asking for advice, borrowing money, talking about problems at home, talking about problems with another friend, and trusting the friend. A summated scale across all items and friends is used (Cronbach's alpha=.83), and each item also is analyzed separately.

Network multiplexity is the degree to which the respondent's network overlaps in different arenas of his or her life. The concept can be measured for both conventional and deviant arenas. Network multiplexity in conventional arenas is measured by two indices. The first comprises questions that ask respondents how often they participate with each of their three best friends in six different types of activities (sports outside of school, school sports, clubs and special events, musical or singing groups, church or religious activities, and other groups). These items are analyzed both as summated indices and as separate activities.

Parents who participate in their children's activities also constitute a type of conventional network multiplexity. Therefore, a second measure of multiplexity uses the same items as above but with parent or caretaker replacing the friend's name in the stem of the question.

Asking respondents about different arenas that are deviant in nature is more difficult. To assess the multiplexity of friendship networks in deviant activities, an index of risky activities is computed. This index comprises three items asking how often the adolescent and each of the three friends get together where no adults are present, drive around in a car with no special place to go, and get together where someone is using or selling drugs.

The stability of the friendship network is measured by counting the number of friends named in Wave 2 who were still identified by the respondent as being best friends at Wave 3. This was done by matching not only the names of the friends given in the two waves but also the demographic characteristics of those friends.

The measures of alcohol and marijuana use are prevalence measures indicating whether respondents used these substances during the past year. Because the items ask about use in the past 6 months, responses to Waves 3 and 4 are combined to obtain an annual estimate. Respondents are categorized as alcohol users if they indicate that they used any of three types of alcohol (beer, wine, or liquor) without their parents' permission during the past year. Of the total sample, 37.6 percent are categorized as alcohol users. A single item asks respondents whether they had used marijuana. By combining responses from Waves 3 and 4, 16.3 percent of the sample are categorized as marijuana users.

RESULTS

Tables 2 and 3 present the results from difference-of-means tests comparing alcohol and marijuana users with nonusers for the total sample and for males and females separately. The results by race and ethnicity are presented in a later section.

Total Sample and Gender Analysis

Homophily. For the total sample, the results regarding homophily for alcohol and marijuana users are consistent. Users are more likely to have friends who are of a different sex, attend a different school, and are in a different grade than are nonusers. However, users' friends are more likely to be from the same neighborhood. It appears that the social networks of users are more likely to comprise neighborhood friends who may or may not be attending the same school. These findings highlight the importance of the neighborhood context in understanding drug use.

Alcohol and marijuana users are also more likely to have a girlfriend or boyfriend. Coupled with the finding regarding the gender composition of their social networks, this indicates that users are more likely to be socially active and to have begun to date. This is most evident for female marijuana users. Wister and Avison (1982) suggest that males play a very important role in initiating females into marijuana use, and the data reported here support that contention.

Previous research shows that users are much more likely to associate with friends who use alcohol or marijuana than are nonusers. It is evident that the characteristic that best differentiates users from nonusers is the behavior of their friends. However, unlike prior research, the findings here suggest that users have social networks that are less homophilic than nonusers in terms of gender, their grade in school, and the school they attend. On the other hand, users are more likely to have friends who live in their neighborhood than are nonusers.

Density. For the total sample, there is no significant difference in the density of the networks of alcohol and marijuana users and nonusers. This finding is consistent with previous research (Wister and Avison 1982) and may reflect not differentiating the stage of substance use in the present analysis.

Intimacy. For both the overall scale and the separate items, users report being more intimate with their friends than do nonusers. This pattern is evident for both alcohol and marijuana and for males and females, although the differences are greater for marijuana users than for alcohol users.

These findings may suggest that friendship networks among users are closer than among nonusers. However, the specific items refer to the expressive and instrumental support provided by friends, and users may need that type of support more than nonusers and call on their friends to supply it. The friendship networks of nonusers may be as willing to provide such support as users' networks, but nonusers may need such support less than users.

Multiplexity. The measures of multiplexity include not only the friendship network but also the family network. Participation with friends or with parents in conventional activities is assumed to have a constraining effect on drug use, whereas participation with friends in "risky" contexts is likely to encourage use.

The findings regarding the participation of friends in conventional activities are surprising. There are no significant differences between alcohol users and nonusers or between marijuana users and nonusers in the means for the overall measure and for each individual item. These results are contrary to what was expected from a network perspective and what was found by Krohn and colleagues (1988).

TABLE 2. *Difference-of-means tests for alcohol use for total sample and by gender*

Variable	Total (n=885) Nonusers (n=552)	Total (n=885) Users (n=333)	Male (n=641) Nonusers (n=405)	Male (n=641) Users (n=236)	Female (n=244) Nonusers (n=147)	Female (n=244) Users (n=97)
Homophily						
Friends' age	.38	.37	.37	.36	.39	.38
Friends' sex	.96	.91**	.95	.91**	.96	.92*
Friends' ethnicity	.83	.84	.84	.84	.82	.85
Friends' school	.59	.50**	.51	.43**	.65	.57
Friends' grade	.63	.55**	.56	.50*	.69	.61*
Friends' neighborhood	.49	.57**	.56	.59	.42	.54**
Special girlfriend/boyfriend	.34	.59**	.31	.52**	.38	.62**
Peer drug use	4.68	6.34**	4.58	6.15**	4.80	6.48**
Density of friendship network	.90	.91	.90	.91	.91	.91
Intimacy with friends	16.75	17.65**	15.89	16.60**	17.73	18.57*
Talk about personal things	2.98	3.15**	2.80	2.92	3.18	3.36*
Ask for advice for decision	2.93	3.08**	2.73	2.84	3.15	3.30
Borrow money	2.19	2.30	2.21	2.30	2.15	2.25
Talk about "home problems"	2.36	2.67**	2.17	2.34*	2.59	2.99**
Talk about "friend problems"	2.90	2.96	2.64	2.72	3.18	3.18
Trust about anything told	3.39	3.49**	3.32	3.48**	3.48	3.49
Multiplexity						
Friends' participation	5.07	5.06	5.22	5.22	4.90	4.92
Sports outside of school	2.83	2.81	3.72	3.57	1.82	2.14
School sports	2.39	2.14	2.60	2.29	2.14	1.89
Clubs/special events	2.46	2.64	2.34	2.34	2.58	2.89
Musical/singing groups	1.76	1.56	1.16	1.14	2.30	1.97
Church/religious activities	3.51	3.31	3.18	2.83	3.86	3.69
Other groups	1.86	1.62	2.15	1.94	1.51	1.43

TABLE 2. *(continued)*

Parents' participation	4.02	3.61*	4.19	3.97	3.82	3.28
Sports outside of school	1.67	1.55	1.84	1.71	1.46	1.43
School sports	1.57	1.47*	1.62	1.57	1.51	1.35
Clubs/special events	1.59	1.55	1.53	1.48	1.65	1.63
Musical/singing groups	1.48	1.32**	1.32	1.25	1.64	1.38*
Church/religious activities	2.34	2.02**	2.34	1.96**	2.34	2.07
Other groups	1.38	1.28	1.40	1.35	1.34	1.20
Risky time with friends	5.53	6.53**	5.70	6.88**	5.32	6.11 **
Stability of friendship network	1.52	1.34**	1.60	1.47	1.44	1.23

* p<.05; ** p<.01 (two-tailed test)

TABLE 3. *Difference-of-means tests for marijuana use for total sample and by gender*

Variable	Total (n=885) Nonusers (n=741)	Total (n=885) Users (n=144)	Male (n=641) Nonusers (n=546)	Male (n=641) Users (n=95)	Female (n=244) Nonusers (n=195)	Female (n=244) Users (n=49)
Homophily						
Friends' age	.38	.35	.37	.33	.39	.36
Friends' sex	.96	.88**	.95	.87**	.96	.90*
Friends' ethnicity	.83	.84	.84	.83	.83	.84
Friends' school	.57	.47**	.50	.40*	.64	.54
Friends' grade	.62	.52**	.56	.42**	.68	.61
Friends' neighborhood	.50	.61**	.57	.60	.44	.61**
Special girlfriend/boyfriend	.37	.71**	.36	.56**	.39	.80**
Peer drug use	4.84	7.40**	4.78	7.32**	4.92	7.47**
Density of friendship network	.91	.91	.90	.92	.91	.90
Intimacy with friends	16.78	18.50**	15.97	17.19**	17.73	19.31**
Talk about personal things	2.99	3.32**	2.80	3.09**	3.20	3.45**
Ask for advice for decision	2.94	3.21**	2.74	2.96**	3.17	3.37**
Borrow money	2.18	2.42**	2.24	2.27	2.11	2.50**
Talk about "home problems"	2.38	2.92**	2.18	2.56**	2.64	3.15**
Talk about "friend problems"	2.88	3.14**	2.64	2.88**	3.15	3.31
Trust about anything told	3.41	3.49	3.37	3.43	3.47	3.52
Multiplexity						
Friends' participation	5.04	5.20	5.22	5.22	4.85	5.15
Sports outside of school	2.77	3.06	3.71	3.40	1.76	2.64
School sports	2.35	2.07	2.51	2.34	2.11	1.79
Clubs/special events	2.54	2.48	2.36	2.26	2.70	2.69
Musical/singing groups	1.66	1.82	1.18	.96	2.05	2.64
Church/religious activities	3.44	3.43	3.04	3.09	3.85	3.56
Other groups	1.81	1.57	2.11	1.87	1.48	1.48

TABLE 3. *(continued)*

Parents' participation	3.96	3.47**	4.15	3.87	3.72	3.17
Sports outside of school	1.64	1.56	1.82	1.63	1.44	1.49
School sports	1.57	1.38**	1.62	1.52	1.49	1.29
Clubs/special events	1.59	1.50	1.52	1.47	1.67	1.52
Musical/singing groups	1.42	1.41	1.31	1.21	1.52	1.60
Church/religious activities	2.27	2.03*	2.24	1.97	2.28	2.06
Other groups	1.36	1.26	1.40	1.27	1.29	1.25
Risky time with friends	5.68	6.94**	5.86	7.75**	5.45	6.32**
Stability of friendship network	1.53	1.14**	1.58	1.38*	1.46	.95**

* p<.05; ** p<.01 (two-tailed test)

The overall measure of joint participation with parents is significant for the total sample for both alcohol and marijuana use. Nonusers are more likely to have parents who take an active role in their children's activities. Although not significant for males and females, the direction of differences is as expected. Parental participation in school sports and in church or religious activities serves best to differentiate users from nonusers. Children whose parents are involved with them in such activities are less likely to use alcohol and marijuana.

Adolescents also participate in unsupervised activities with their friends, which would be expected to put them at greater risk for using alcohol and marijuana. The findings confirm this expectation for both alcohol and marijuana use. Both male and female users are more likely to participate in unsupervised activities than are nonusers, although the differences are somewhat larger for the males.

Stability. Stability in the friendship network is measured by whether any of the three friends named by respondents at Wave 2 is also named as a friend at Wave 3. In spite of a relatively short interval between interviews (6 months), a difference in the stability of friendship networks of users and nonusers is observed. Both alcohol and marijuana users are more likely to have changed the members of their friendship networks than are nonusers. This is particularly apparent for marijuana users.

It is interesting to contrast these findings for stability with those for intimacy. Whereas users are more likely to talk to their friends concerning personal issues and problems than are nonusers, they are also more likely to change those friends. The social networks of users may be less tightly knit (as evidenced by the greater likelihood of change), and users may be more likely to "open up" to their friends because of the problems they experience. Or users may be more sociable individuals, which not only makes them more likely to open up to their friends but also more likely to make new friends. With the data available, it is not possible to determine which interpretation is correct.

Another issue raised by the findings on stability is whether the change in friends that is more likely among users is because users are moving from nonusing networks to using networks. To examine this, the peer drug use of those respondents who initiated use at Wave 3 was compared with the peer drug use of those who had never used drugs. At Wave 2 (as well as at Wave 3), there is a significant difference in peer alcohol and other drug use between those respondents who initiated use at Wave 3 and those who maintained abstinence. Hence, it appears that the greater likelihood of users to change friends between Waves 2 and 3 is not because they are moving from a nonusing network to a using network, but rather because they are changing from one set of friends who use to another set of friends who use.

Summary. The picture of the social networks of alcohol and marijuana users compared with those of nonusers suggests that these relationships are complex. Friends of users are less likely to be of the same sex, in the same school, or in the same grade as those of nonusers. On the other hand, users are more likely to have friends who live in their neighborhood. Users rely on their friends for more social support than nonusers but are also more likely to have acquired a different set of friends over a 6-month period. Jointly participating in conventional activities with their friendship network does not differentiate users from nonusers; however, having parents who are actively involved in those same activities does. Having a girlfriend or boyfriend, participating with friends in "risky" activities, and having friends who use alcohol and other drugs are the three most important variables in differentiating users from nonusers.

Racial and Ethnic Differences

The results for the different racial and ethnic groups represented in our sample are presented in tables 4 and 5. Although, in general, the separate analyses by ethnicity reflect the results reported above, there are a few intriguing differences.

Homophily. For African-Americans and Hispanics, results regarding the similarity in sociodemographic characteristics of friendship networks are similar to those just reported. The friendship networks of African-American alcohol and marijuana users, compared with nonusers, are less likely to be homophilic with regard to sex, school, and grade in school, but they are more likely to be homophilic in terms of neighborhood. For Hispanics, the sex and neighborhood variables are significantly different between users and nonusers, and the trend in the results for the other variables is similar to that for African-Americans. The one finding that differs for Hispanics is that alcohol users are significantly less likely than nonusers to have friends from their own ethnic group. This holds only for alcohol users and not for marijuana users.

None of the sociodemographic characteristics of friendship groups are significantly different between white users and nonusers. These findings cannot be attributed to the relatively low number of whites in the sample. The means of these two groups are not substantially different.

For all three racial groups, users are more likely to have a girlfriend or boyfriend and their friends are more likely to use drugs.

Density. The breakdown by racial/ethnic groups reveals some interesting patterns with regard to the density of social networks. Hispanic alcohol users have significantly less dense social networks than nonusers, and although not significant, the same pattern is evident for Hispanic marijuana users. On the

TABLE 4. *Difference-of-means tests for alcohol use by race/ethnicity*

	White (n=140)		African-American (n=605)		Hispanic (n=140)	
Variable	Nonusers (n=88)	Users (n=52)	Nonusers (n=374)	Users (n=231)	Nonusers (n=90)	Users (n=50)
Homophily						
Friends' age	.32	.39	.39	.37	.41	.32
Friends' sex	.93	.91	.96	.92**	.99	.89*
Friends' ethnicity	.83	.88	.85	.88	.73	.61*
Friends' school	.50	.57	.62	.50**	.57	.45
Friends' grade	.59	.53	.64	.56**	.63	.53
Friends' neighborhood	.49	.50	.51	.59*	.42	.56*
Special girlfriend/boyfriend	.18	.46**	.41	.62**	.22	.60**
Peer drug use	4.44	6.44**	4.86	6.29**	4.23	6.45**
Density of friendship network	.87	.89	.89	.93	.98	.87*
Intimacy with friends	16.22	16.57	16.92	17.86**	16.63	17.99*
Talk about personal things	2.76	2.83	3.02	3.23**	3.05	3.13
Ask for advice for decision	2.84	2.93	2.91	3.12**	3.08	3.10
Borrow money	2.18	2.16	2.31	2.32	1.72	2.33**
Talk about "home problems	2.35	2.41	2.36	2.72**	2.36	2.79*
Talk about "friend problems"	2.66	2.70	2.92	3.00	3.04	3.06
Trust about anything told	3.42	3.54	3.39	3.46	3.37	3.58*
Multiplexity						
Friends' participation	4.58	4.93	5.19	5.23	5.07	4.32
Sports outside of school	3.53	2.77	2.84	2.86	2.11	2.58
School sports	2.14	2.46	2.74	2.14*	1.30	1.74
Clubs/special events	2.76	3.74	2.52	2.44	1.99	2.20
Musical/singing groups	.63	1.40	2.08	1.67	1.64	1.14
Church/religious activities	2.25	2.00	3.70	3.93	4.01	1.82**
Other groups	1.15	1.51	2.30	1.77	.89	1.03

TABLE 4. *(continued)*

Parents' participation	3.84	3.73	3.98	3.66	4.35	3.22*
Sports outside of school	2.00	1.67	1.59	1.54	1.65	1.43
School sports	1.51	1.60	1.63	1.50	1.40	1.16
Clubs/special events	1.66	1.80	1.58	1.53	1.55	1.35
Musical/singing groups	1.18	1.24	1.57	1.38*	1.41	1.06**
Church/religious activities	1.85	1.50*	2.48	2.24*	2.28	1.59**
Other groups	1.24	1.26	1.43	1.30	1.30	1.18
Risky time with friends	5.27	6.52**	5.71	6.53**	5.11	6.54**
Stability of friendship network	1.82	1.30**	1.39	1.36	1.78	1.32**

* p<.05; ** p<.01 (two-tailed test)

TABLE 5. *Difference-of-means tests for marijuana use by race/ethnicity*

Variable	White (n=140)		African-Amercian (n=605)		Hispanic (n=140)	
	Nonusers (n=119)	Users (n=21)	Nonusers (n=422)	Users (n=183)	Nonusers (n=105)	Users (n=35)
Homophily						
Friends' age	.35	.35	.39	.35	.39	.32
Friends' sex	.93	.88	.96	.89**	.98	.82*
Friends' ethnicity	.86	.80	.86	.87	.70	.68
Friends' school	.52	.53	.59	.47**	.56	.41
Friends' grade	.59	.46	.63	.54**	.62	.48
Friends' neighborhood	.48	.60	.53	.61*	.44	.60
Special girlfriend/boyfriend	.26	.52*	.43	.73**	.27	.76**
Peer drug use	4.91	7.27**	4.94	7.32**	4.39	8.05**
Density of friendship network	.87	.97**	.90	.92	.97	.82
Intimacy with friends	16.28	16.82	16.92	18.74**	16.77	18.74*
Talk about personal things	2.76	2.97	3.04	3.37**	3.02	3.40**
Ask for advice for decision	2.87	2.90	2.92	3.26**	3.06	3.25
Borrow money	2.17	2.18	2.27	2.50**	1.87	2.17
Talk about "home problems"	2.36	2.45	2.38	2.96**	2.40	3.09**
Talk about "friend problems"	2.66	2.75	2.90	3.16**	2.99	3.38
Trust about anything told	3.46	3.58	3.40	3.49	3.43	3.45
Multiplexity						
Friends' participation	4.81	4.03	5.15	5.45	4.84	4.84
Sports outside of school	3.29	2.92	2.76	3.21	2.24	2.37
School sports	2.31	1.94	2.61	2.15	1.37	1.75
Clubs/special events	3.16	2.99	2.52	2.38	2.56	1.97
Musical/singing groups	.88	1.28	1.92	1.92	1.45	1.79
Church/religious activities	2.21	1.76	3.76	3.91	3.53	2.22
Other groups	1.33	1.01	2.19	1.72	.88	1.26

TABLE 5. *(continued)*

Parents' participation	3.90	3.11	3.93	3.56	4.12	3.31
Sports outside of school	1.91	1.65	1.58	1.54	1.56	1.58
School sports	1.56	1.49	1.62	1.42*	1.37	1.08
Clubs/special events	1.70	1.80	1.59	1.44	1.48	1.54
Musical/singing groups	1.20	1.23	1.50	1.50	1.34	1.08
Church/religious activities	1.73	1.64	2.44	2.17*	2.15	1.58
Other groups	1.28	1.05**	1.41	1.29	1.26	1.30
Risky time with friends	5.54	7.22**	5.81	6.86**	5.29	7.14**
Stability of friendship network	1.68	1.18*	1.43	1.13**	1.73	1.12**

* p<.05; ** p<.01 (two-tailed test)

other hand, white marijuana users have denser friendship networks than do white nonusers. For African-Americans, there is no difference in density between users and nonusers.

Intimacy. African-American and Hispanic alcohol and marijuana users have more intimate friendship networks than nonusers. The differences are greater for marijuana than they are for alcohol. Although there is a slight tendency for white users to have more intimate social networks than white nonusers, the differences for both alcohol and marijuana are not significant.

Multiplexity. The overall participation with friends in conventional activities is not significant for any racial/ethnic group in both the alcohol and marijuana analysis. Joint participation with friends in school sports has some constraining effect on alcohol use for African-Americans, and joint participation with friends in church activities is greater for Hispanic alcohol and marijuana nonusers than it is for Hispanic users.

Hispanic alcohol users have lower rates of participation in joint activities with their parents than nonusers, and the same tendency is observed for Hispanic marijuana users and nonusers. Participation in church activities with parents differentiates users of alcohol from nonusers for all three groups. It has the same effect for marijuana users and nonusers, although the difference is significant only for African-Americans.

Joint participation with friends in "risky" activities is greater for users of both substances in all three groups. Youth who spend time with their friends in unsupervised activities and where drugs are available have higher rates of substance use than youth who do not engage in these activities with their friends.

Stability. For all these groups, alcohol users and marijuana users have less stable social networks. This difference is significant in all comparisons, except that between African-American alcohol users and nonusers.

Summary. These results suggest that the social network characteristics of users and nonusers differ somewhat by racial and ethnic group. Overall, the social networks of white users and nonusers are less distinct than those of African-Americans or Hispanics. There are no significant differences between white users and nonusers in the sociodemographic characteristics of friends, the intimacy of social networks, or the joint participation with friends or parents in conventional activities. The friendship networks of white marijuana users are more dense than those of white nonusers.

African-American and Hispanic alcohol and marijuana users are less likely to be homophilic in terms of sex, school, and grade, but they are more likely to have friends from the same neighborhood. Users from these two groups have more intimate friendship networks than do nonusers. Hispanic alcohol users are less likely to have dense social networks and to participate with their parents in joint activities than are nonusers. For African-Americans, there are no significant differences in density or overall participation with parents in joint activities between users and nonusers of either substance.

Users of both alcohol and marijuana of all racial groups have less stable social networks than do nonusers. They are also more likely to have a girlfriend or boyfriend, to participate in risky activities with friends, and to have friends who use alcohol and marijuana.

CONCLUSION

Prior research has clearly established that adolescents who have friends who use drugs are also likely to use drugs. Although this finding is among the strongest and most consistent in research on drug use, little is known about the characteristics of the networks that constitute these relationships. Based on data from the Rochester Youth Development Study, this chapter contributes to the understanding of this topic by describing five central characteristics of the social networks of drug users and nonusers: homophily, density, intimacy, multiplexity, and stability.

Previous studies have found that the affective quality of relationships that users have with friends is at least as close as that of nonusers. Had the present study examined only the intimacy of the relationship of social networks, its conclusion would have been similar to that of prior research. This research found that users have more intimate or supportive relationships with their friendship network than do nonusers. It also found that user networks are generally as dense as nonuser networks. In addition, it found that although relationships within user networks appear to be more intimate, they are also less stable over time.

Interpreting the paradox of users having more intimate but less stable social networks is difficult. The measure of intimacy included items that focused on expressive and instrumental support that friends provide one another. The fact that users have higher values on this measure may indicate that they need to lean on friends more for this type of help than do nonusers. The need for users to rely on friends for social support may also be a result of a more alienative relationship with parents. Although parental social support was not examined in the current analysis, parents of users were found to be less involved in the social networks of their children. Hence, although the friendship networks of users may be weaker as evidenced by their transitory nature, users may need to call on their friends for more social support than nonusers.

On the other hand, the friendship networks of users are not less multiplex or less dense than those of nonusers. Therefore, the finding regarding stability may indicate that users are simply more sociable, putting them in a better position to constantly make new friends. Once those new friendships are formed, users are more likely to open up to those friends.

It is not possible with the current information to determine which of these interpretations is valid. However, it is evident that the suggestion in prior research that the friendship networks of alcohol and drug users are more intimate than those of nonusers may be premature. With a more complete description of characteristics of social networks, that explanation is called into question.

The results do confirm that users of alcohol and marijuana are more likely to have friends who also use. Moreover, these friends are more likely to live in the same neighborhood than the friends of nonusers. This finding underscores the importance of the neighborhood context in determining use patterns and, coupled with the finding that the networks of users are less likely to come from the same school, suggests that intervention strategies should include neighborhood-based as well as school-based strategies.

A more difficult finding to deal with in terms of social policy is that users are more likely to have a girlfriend or boyfriend. This result may reflect that the use of alcohol and marijuana is part of the "normal" pattern of interaction among adolescents who are more socially active. This pattern was especially pronounced for females, which suggests that they are more prone to be influenced by the behavior of their boyfriends. It is difficult to suggest a strategy for dealing with this tendency. Perhaps programs that focus on social skills and strategies of saying no are on the right track.

Racial and Ethnic Differences

The results from this study also indicate that the networks of users of different ethnic or racial backgrounds vary to some extent. In particular, the network structure of white users is not significantly different from that of nonusers. This may suggest that the role alcohol and other drug use plays for the white adolescent is different than the role it plays for African-Americans or Hispanics. White adolescents may be able to better incorporate such behavior into the routine activities of their lives than adolescents of other races, thereby resulting in little change in the structures of their social networks.

There is also some indication that the structure of social networks among Hispanic alcohol users varies on different dimensions than do the network structures of white or African-American users. Hispanic alcohol users have less dense friendship networks and are less likely to have friends from their own ethnic group than nonusers. This is not the case for whites or African-Americans. Moreover, Hispanic users are less likely than nonusers to participate jointly with their parents in conventional activities.

The findings regarding Hispanics can be interpreted as being consistent with prior research on the social networks of Hispanics, which suggested that the family plays a more important role as a social support network for Hispanics than it does for either whites or African-Americans (De La Rosa 1988). The fact that Hispanic users in our study are less likely to do things with their parents than are nonusers suggests that there has been some disruption in the close family ties. Perhaps this disruption has been caused partially by the younger generation being acculturated into mainstream society. The finding that Hispanic alcohol users are more likely to have friends who are not of the same ethnic status may be a manifestation of this acculturation process. The differences in these dimensions are not large, and more research is required to determine whether some of the implications hinted at by these results are valid.

It is evident that the meaning of the relationship between having friends who use drugs and one's own use of drugs is more complex than is apparent from research that focuses only on the drug-using status of friends. By comparing the network characteristics of users and nonusers, a number of questions have been raised regarding the nature of friendships and their role in generating substance use. Clearly, the current effort is but an initial step that has identified avenues for further inquiry. However, it has demonstrated the importance of both focusing on an array of network characteristics and examining differences across racial and ethnic groups.

NOTES

1. Social learning theory is an exception (Akers 1985) because it states that people learn from others through the processes of operant conditioning.

2. For more detailed information concerning the sampling strategy and characteristics, see Farnworth and colleagues (1990).

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Examining Conceptual Models for Understanding Drug Use Behavior Among American Indian Youth

Jeff King and Julian F. Thayer

INTRODUCTION

Alcohol and other drug abuse is of most serious concern among American Indian populations (Beauvais et al. 1989; Segal 1989; Young 1988). Recent research has found that there is more substance abuse among American Indians than most, if not all, other ethnic minority groups in the United States (Beauvais et al. 1985, 1989; Office for Substance Abuse Prevention 1990).

Seventy-five percent of all American Indian deaths are related to alcohol (Young 1988), and 5 of 10 major causes of death among American Indians are directly attributable to alcohol: automobile crashes, cirrhosis of the liver, alcohol dependency, suicide, and homicide (Andre 1979; Jones-Saumty and Zeiner 1985).

Lifetime prevalence rates for alcohol use among American Indian adolescents have been shown to average 80 percent or higher (Beauvais et al. 1989; King et al., in press). Hence, the risks for American Indian adolescents for deviant drinking behaviors are greater than those for many other ethnic populations (May 1982).

American Indian youth begin using an array of substances at an earlier age than their white counterparts (Cockerham et al. 1976; Okwumabua and Duryea 1987; Young 1988). They are more likely to try marijuana and to begin this experimentation at an earlier age (Office for Substance Abuse Prevention 1990; Young 1988). Inhalant use is twice as high for young American Indians than the national average. Toluene-based solvents are among the first drugs used by American Indian youth and often precede the first time alcohol is used (Beauvais et al. 1985). Substance abuse reaches near epidemic proportions in American Indian boarding schools (Dinges and Duong-Tran 1989). May (1982) noted that, in general, American Indian boarding schools are characterized by a high concentration of high-risk or problem youth. Dinges and Duong-Tran (1989) found that lifetime prevalence rates for alcohol use in a boarding school population reached 93 percent, and 53 percent of these students were considered to be at an at-risk level for serious alcohol abuse. King and colleagues (in press) found that one of five American Indian boarding school students used alcohol at least every weekend and that one of four had experimented with inhalants. Noting that approximately 20 percent of the American Indian and Alaska Native student populations attend boarding schools, reasons for these high rates of substance abuse must be examined (U.S. Department of the Interior 1988).

Although high prevalence rates for alcohol and other drug use have been well established among American Indian youth, explanations for these behaviors have yet to be tested scientifically (Oetting and Beauvais 1990). Attempts to identify and understand the factors contributing to these high rates of alcohol and other drug abuse have considered various causes.

Life stress factors have been postulated to predict rates of alcohol and other drug use among adolescents (Bruns and Geist 1984; Carman 1979; Labouvie 1986; Chassin et al. 1988). Stressful life events heighten during adolescent development with social adjustment factors, separation, individuation, career issues, and peer pressures becoming paramount. Hence, the theory has developed that alcohol and other drug use may be an escape or a way of buffering the effects of these stressors. Several studies have found strong correlations between drug use and number of stressful life events (Bruns and Geist 1984; Headlam et al. 1979; Newcomb and Harlow 1986). Labouvie (1986) has hypothesized that life stress factors contribute to poor social relations. Substance abuse becomes a way of coping with these difficulties. Despite the widely recognized stress of life in American Indian communities (Bechtold et al., in press), this aspect has just begun to be examined among American Indian youth (King et al., in press).

Social support has been identified as a moderating factor that reduces the impact of stressors that may contribute to substance use (Aneshensel and Huba 1984; Segal et al. 1980). Research efforts have examined the relative effects of family and friend support (Wills and Vaughan 1989; Zucker and Gomberg 1986). Degree of family support appears to be inversely related to rates of substance use (Chassin et al. 1988; Mann et al. 1987; Wills 1986; Wills and Vaughan 1989). However, during adolescence, friend support becomes increasingly more important than parental or family support (Zucker and Noll 1982). Friend support has been consistently linked to rates of substance use (Jessor 1987; Smith et al. 1989; Swaim et al. 1989; Wills and Vaughan 1989). Again, examination of the influence of social support among American Indian adolescents has received very little attention (King et al., in press).

Psychological and emotional distress has also been studied in relation to adolescent substance use (J.J. King and J.F. Thayer, unpublished data; Russell and Mehrabian 1977; Watson and Clark 1984). Some studies have found only minimal relationships between emotional and psychological distress and substance use (Johnson and Matre 1978; Labouvie 1986; Oetting et al. 1988; Swaim et al. 1989), whereas others have found that substance abuse serves as a buffer to or an escape from negative affect (Aneshensel and Huba 1983; Blane et al. 1968; Lex 1987; Watson and Clark 1984). Questions of this nature are only now being asked about American Indian youth.

Researchers now agree that no one predictor, in isolation, can account for the variability in the nature and pattern of substance use (Aneshensel and Huba 1984; Stein et al. 1987; Swaim et al. 1989). The most promising models for substance abuse consist of multiple contributing factors (Aneshensel and Huba 1984; King et al., in press; Newcomb and Harlow 1986; Smith et al. 1989).

Aneshensel and Huba (1984) developed a multifactor model that examined the effects of life stress, social support, illness, alcohol use, and depression. They found that life stress significantly influenced levels of social support, depression, alcohol use, and illness. They also found that social support mediated the impact of life stress on these other factors.

Multifaceted models of this kind hold the most promise for examining the area of substance abuse. The study discussed in this chapter examines two of the more prominent theoretical approaches in this area: the life stress/social support model as proposed by Aneshensel and Huba (1984) and the peer cluster theory as postulated by Oetting and Beauvais (1986).

The *life stress model* proposes that the primary predictive factors for substance abuse are life stressors and degree of social support. In this particular framework, alcohol and other drug use is viewed as a coping strategy that reduces the impact of life stress. Social support serves as a mediating variable between life stress and substance use; that is, the greater the social support, the less likely it is that one needs to use alcohol or other drugs.

The *peer cluster theory* (Oetting and Beauvais 1986) hypothesizes that the strongest predictive factor for substance use is peer influence. The group with which the individual most closely associates determines where, when, and how alcohol and other drugs are used. This cluster group also determines the attitudes and beliefs about alcohol and other drugs. The peer cluster theory does not ignore other psychosocial factors; rather, they are seen as background variables that influence the adolescent's choice of peer group. These factors include social structure (e.g., family support), socialization processes (e.g., religious identification, school success), attitudes and beliefs, and psychological factors (e.g., self-confidence, alienation).

This study utilizes structural equation modeling (Jöreskog and Sörbom 1989) to test the relative value of these two theories. Data were collected as part of a longitudinal biannual survey of American Indian high school students. This survey was conducted by the National Center for American Indian and Alaska Native Mental Health Research (NCAIANMHR). The survey began at the request of the tribal administration because it wanted to better understand how these students were doing academically, socially, and psychologically and to what extent alcohol and other drugs were being used. Although more than 20 percent of all American Indian children attend boarding schools (U.S. Department of the Interior 1988), there are significant differences among tribes and among American Indian boarding schools. Therefore, other studies similar to this one must be conducted at other American Indian boarding schools as well as among non-boarding school American Indian children before a consensus can be formed regarding substance abuse among this population. Because data analyses of this survey are in the early stages, only cross-sectional analyses are available at this time.

METHODS

Subjects

Subjects were recruited from a tribally administered boarding school in the Western United States. Seventy-five percent of the students reside in the campus dormitories throughout the school year. Most of the students belong to five local tribes and come from nearby areas within the State. The sample size was 177 students for the life stress analysis and 169 students for the peer cluster analysis. Variation in sample size was due to the number of completed measures within each analysis. The participant age range was from 12 to 19 years, with an average age of 16. Gender participation was approximately equal.

Procedures

A self-report questionnaire was administered to the students during their second-period classes. Participation was voluntary. Teachers explained the nature and purpose of the study and administered the informed consent and questionnaire to the students. NCAIANMHR staff members were onsite to assist if necessary. Confidentiality was stressed, and compensation for participants was provided through raffle prizes.

Measures

The student questionnaire comprises 11 areas of measurement: (1) sociodemographic data; (2) educational attitudes; (3) cultural affiliation; (4) health characteristics; (5) stressful life events specific to students of this age, educational setting, and cultural background; (6) coping strategies; (7) social support; (8) kind, frequency, attributions, and consequences of substance use; (9) depression; (10) suicidal behavior; and (11) anxiety.

For the purposes of this study, the analyses were restricted to measures related to the theoretical constructs within each model. The life stress model utilized measures assessing alcohol and other drug use, depression, social support, and stressful life events. The Major Life Events scale, recently developed by Lewinsohn and colleagues in the Oregon Adolescent Depression Project (J.A. Andrews, P.M. Lewinsohn, A. Hops, and R.E. Roberts, unpublished data), assesses the occurrence of 14 major life events within the past 6 months among the adolescent, his or her family, and friends. The Hassles scale is a 20-item measure of recent events also developed by Lewinsohn and colleagues. It was modified to include 10 additional items specific to the American Indian boarding school population and setting. Additions to the scale included items concerning religious activities and beliefs (e.g., having to stay at school when ceremonial activities are happening at home), specific issues found in boarding schools (e.g., kitchen duty, distance from family), and cultural issues (e.g., loneliness for others who speak the same tribal language). Students were asked to report those events occurring within the past 4 weeks and to rate each event (range: 0=not happen at all; 5=happen almost every day). Perceived Friend Support and Perceived Family Support are 20-item subscales of the Perceived Social Support Inventory (Procidano and Heller 1983) that assess perceived level of support from family and/or friends (e.g., "I rely on my friends for emotional support," range: 0=always false; 5=always true). Depression was assessed by the Inventory to Diagnose Major Depression (IDD) (Zimmerman and Coryell 1986), a 22-item scale that refers to depressive symptoms occurring within the past 2 weeks (e.g., 0="I do not feel sad or depressed"; 4="I am so sad or unhappy that I can't stand it").

An alcohol and other drug questionnaire assessed frequency, quantity, first use, self-identification as a user, and other items for alcohol and other drugs. Drug items included those for marijuana, inhalants, and other drugs (i.e., hallucinogens, barbiturates, and amphetamines). Among the specific items used in these analyses was alcohol use; three measures asked how often the student is drinking (range: 0=never; 5=every day), in what amounts (range: 0=none; 4=until "high" or drunk), and self-identification as a drinker (range: 0=a nondrinker; 5=a very heavy drinker). Use of marijuana, inhalants, and other drugs was assessed with two items for each drug category (frequency of marijuana use, other drug use, and inhalant use): an item that asks how often a student has ever tried a particular drug (range: 0=never; 4=every day) and a self-identification as a user item (range: 0=a nonuser; 5=a very heavy user).

The peer cluster model employed the measures of social support, parental expectations, academic goals, school adjustment, social support, peer drinking group, and alcohol use. Peer group items for other drug use were not included in the survey; thus, only the alcohol component was examined in this analysis.

Analytic Strategy

First, measurement models were developed for each construct. For the life stress model, the construct of "life stress" comprised three subscales involving both Hassles and Major Life Events items. Constructs of "family support" and "friend support" each consisted of three subscales. (The "substance use" constructs comprised the items mentioned earlier and will be discussed in greater detail later.) The "depression" construct was derived from a single indicator, the sum score of the IDD items.

For the peer cluster model, the two constructs for social support were "parental support" and "friend support," each of which comprised two subscales: positive support and negative support. "Parental expectations" comprised a single item score (range: 1=no expectations; 7=high expectations). "Academic goals" consisted of responses to three related questions: "What are the chances that you will complete this school year?"; "What are the chances you will receive a high school diploma?" (range for these two items: 1=not at all likely; 5=highly likely); and "My educational goal is to . . ." (range: 1=drop out; 5=receive graduate training). "School adjustment" included responses to four items: "How do you feel about going to school?"; "What is your grade in school right now?"; "Compared with friends your age, how well do you do in school?"; and "When did you last have counseling or any other mental health service?" (range: 1=never; 5=within the last 6 months). "Peer alcohol associations" were based on the response to the question, "Who do you drink with?" Three peer-related items were selected: "friends my own age," "older friends," and "alone." The "alcohol use" construct was similar to the one used in the life stress model with an additional item, "In the last month, how often did you get drunk?" (range: 0=none; 4=10 or more times).

Structural equation modeling (Jöreskog and Sörbom 1989) was employed for analyses of the full models containing these constructs (depicted in figures 1 and 2).

Based on the literature previously reviewed, several hypotheses were developed as guides for the subsequent analyses. For the life stress model, age and gender were considered to be independent or exogenous predictors of each construct. Life stress was postulated to predict perceived family and/or friend support and depression as well as levels of substance use. Both friend support and family support were hypothesized to predict levels of depression and substance use and to mediate the effects of stress on these outcomes.

For the peer cluster model, parental expectations were hypothesized to predict levels of friend and parental support, expected academic achievement, and school adjustment. These in turn were hypothesized to predict peer alcohol associations, and peer alcohol associations were hypothesized to predict level of alcohol use.

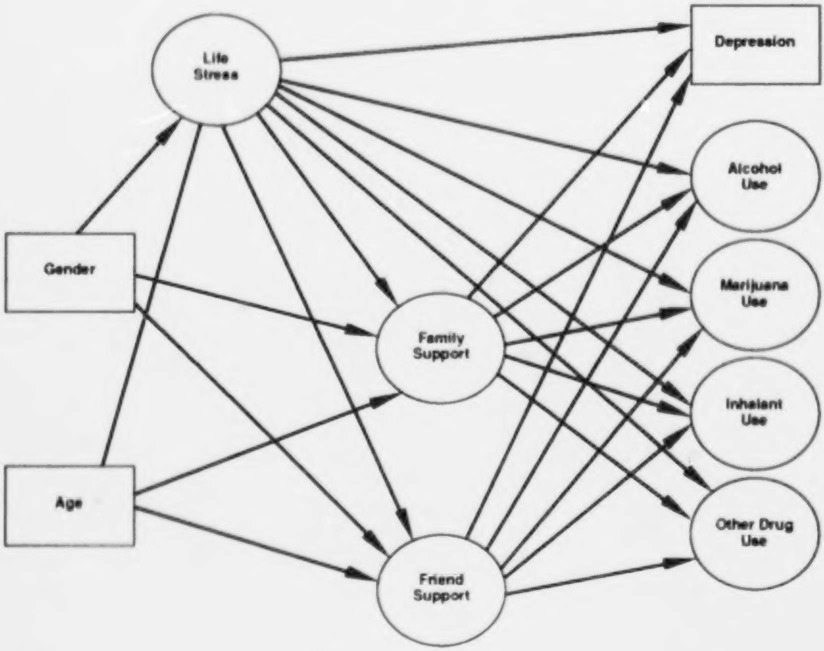
Life Stress
Depression
Alcohol Use
Gender
Marijuana Use
Family Support
Inhalant Use
Age
Other Drug Use
Friend Support

FIGURE 1. *Hypothesized life stress, social support, and substance abuse model*

NOTE: Appropriate error terms were estimated but for the sake of clarity were not included in the figure.

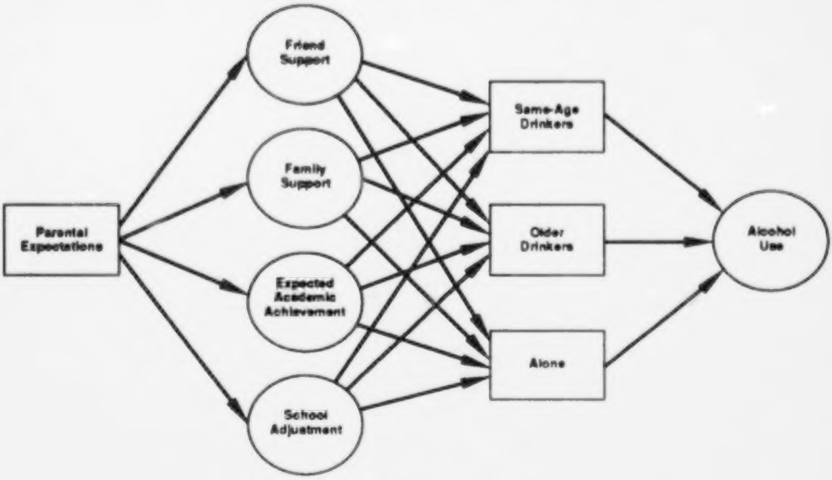
Friend Support
Family Support
Parental Expectations
Expected Academic Achievement
School Adjustment
Same-Age Drinkers
Older Drinkers
Alone
Alcohol Use

FIGURE 2. *Hypothesized peer cluster model*

NOTE: Appropriate error terms were estimated but for the sake of clarity were not included in the figure.

Because these two analyses are cross-sectional, prediction is statistically derived based on the theoretical models, rather than derived from repeated measures over time. Thus, the term "predict" will be italicized when discussed in the results section.

RESULTS

Life Stress Model

A full structural equation model was then developed and tested. Initially, a full model was derived such that age and gender were allowed to *predict* all endogenous constructs; life stress *predicted* social support, depression, and substance use; and social support *predicted* levels of depression and substance use. Subsequently, the model was trimmed by fixing to zero those paths that were not significantly different from zero. The final model is presented in figure 3.

Structural equation modeling assesses the statistical fit of a fitted covariance matrix using the hypothesized model to the original input matrix. In the case of the life stress model, the adjusted goodness-of-fit index was .836, suggesting

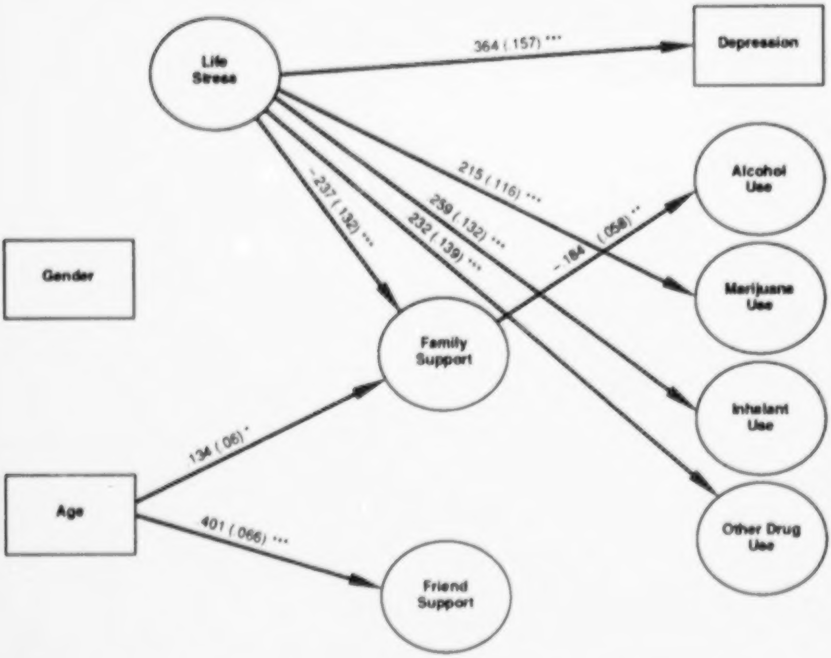
Life Stress
Depression
.364 (.157) ***
Alcohol Use
.215 (.116) ***
Marijuana Use
.259 (.132) ***
.232 (.139) ***
-.237 (.132) ***
-.184 (.058) **
Gender
Family Support
Inhalant Use
.134 (.06) *
Age
.401 (.066) ***
Other Drug Use
Friend Support

FIGURE 3. *American Indian boarding school students: life stress, social support, and substance abuse model (trimmed path model)*

NOTE: Correlated equation error (PSIs) was allowed between depression and substance use constructs. LISREL path coefficients presented are the standardized solutions and standard errors, respectively.

*p<.10; **p<.05; ***p<.01

that the model provided an adequate fit for the data. An index greater than .90 suggests a good fit (Cole 1987). The structural analyses revealed that, among the exogenous factors, age was positively related to both friend and family support. That is, older students tended to perceive receiving support more than younger students. Gender was not significantly related to any of the constructs.

As hypothesized, life stress was positively related to depression and to all four drug use factors. Specifically, the greater the life stress, the more likely one is to feel depressed and/or to use alcohol or other drugs. Life stress was also negatively related to family support. Students experiencing greater life stress perceived less support from their family. For the most part, social support did not *predict* levels of depression or substance use. However, perceiving greater degrees of support from family did *predict* lower levels of alcohol use. It is important to note that, although the relationships between these variables are statistically significant, they do not account for much of the variance. This may be due in part to the low number of subjects in the study.

Peer Cluster Model

A full structural equation model was also developed and tested for the peer cluster model. First, a full model was derived such that parental expectations *predicted* levels of friend and parental support, expected academic achievement, and school adjustment. Each of these factors *predicted* type of peer alcohol associates, and peer alcohol associates *predicted* alcohol use. Following this, the model was trimmed by fixing to zero those paths that were not significantly different from zero. The final model is presented in figure 4.

The adjusted goodness-of-fit index for this model was .808, suggesting an adequate fit to the data. The structural analyses demonstrated that parental expectations were positively related to levels of both friend and family support and to school adjustment. Parental expectations did not *predict* the child's

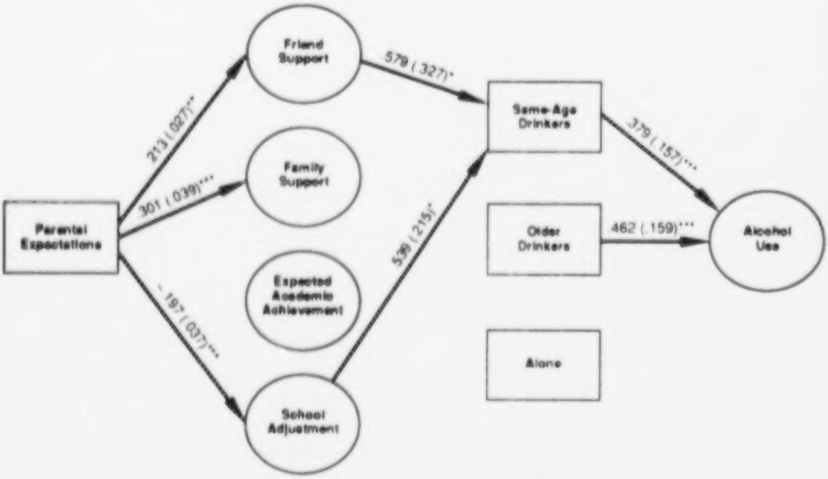
Friend Support
Family Support
Expected Academic Achievement
School Adjustment
Parental Expectations
Same-Age Drinkers
Older Drinkers
Alone
Alcohol Use
213 (.027)**
301 (.039)***
-.197 (.037)***
579 (.327)*
539 (.215)*
379 (.157)***
462 (.159)***

FIGURE 4. *Peer cluster model (trimmed path model)*

NOTE: LISREL path coefficients presented are the standardized solutions and standard errors, respectively.

*p<.10; **p<.05; ***p<.01

personal academic goals. Most significant was level of family support. Apparently, when parental expectations are high for their child, parents also provide more support. Adolescents who have parents with higher expectations for them also tend to have greater support from their peers and tend to adjust to their school environment better.

Both friend support and school adjustment were positively related to choosing same-age drinking partners. This finding may suggest that these youth are choosing healthier partners, given that they are doing well in school and have healthy support from friends and family.

Both same-age drinking partners and older drinking associates *predicted* alcohol use. Because the older drinking cohort was not related to any of the other factors, it might be suggested that this is a different type of alcohol use and a different type of cohort group. However, this notion needs empirical validation.

DISCUSSION

In conclusion, two promising theoretical models for predicting substance abuse were examined. Both appeared to fit the data equally well, suggesting that the constructs employed by both models are identifying important factors involved in rates of alcohol and other drug use. Future analyses may involve examining relationships among factors in both models and incorporating the most significant factors into a more comprehensive model. For example, determining the effects of life stress on family strength factors may reveal important information on where or how family strength originates and maintains itself.

The life stress and social support theory identified life stress as a significant influence on levels of family support and drug use. That it did not *predict* levels of alcohol use is surprising, and why it did not remains unclear. Apparently, reasons for alcohol use differ from those for using other drugs. Family support moderates rates of alcohol use and is also itself influenced by life stress factors. Overall, life stress appears to be a major influence on factors related to substance use.

The peer cluster theory also identified factors significant to substance use. Family strength or, in the case of this analysis, parental expectations were found to influence levels of friend support, family support, and school adjustment. Adolescents who received greater friend support and had better school adjustment chose same-age peers to drink with. These drinking arrangements seem categorically different from those adolescents who drink with older peers. Further analyses may reveal the specific distinctions between these peer cluster groups.

Difficulties encountered in these analyses were threefold. First, not all the constructs in both models were perfectly representative of the constructs of the proposed models. For example, using parental expectations as the sole indicator for family strength may be only a partial representation of that construct. Better measures for each construct may improve the fit of the model as well as heighten understanding of the predictive value of these factors. Also, additional measures, such as acculturative status and traditionality, may add to the model's specificity.

Second, because of the cross-sectional nature of the data represented here, conclusions about the ability of these factors to predict substance use over time remain theoretical. The longitudinal study from which the present data were drawn will be used in later analyses to further explore the causal nature of these relationships.

Third, although statistically significant, each of these models accounts for only a small portion of the total variance. It is important that patterns for alcohol and other substance use are identified empirically, but it is equally important to acknowledge that there are many other contributing factors for alcohol and other drug use that are not accounted for with current methods. Longitudinal studies as well as structural modeling techniques employed in substance abuse research hold promise for increasing understanding in this critical area.

Structural equation modeling provides many advantages for data analysis; most important, it offers the ability to test multiple predictors of substance use simultaneously. To fully understand the multifaceted nature of substance use, future research must encompass multiple factors in the design and analyses. Furthermore, with structural equation modeling, longitudinal paths can be derived to chart the stability of the dynamics among related factors over time. Equally important, structural modeling allows for various theoretical models of substance abuse to be examined. As seen from the results of this study, the comparison of two promising models in the area of substance abuse has directed future research to combine significant factors from both into a more comprehensive approach. This pursuit may provide discrete, substantial information that is sorely needed for determining intervention and policy for the area of substance abuse among American Indian adolescents.

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Acculturation Strain Theory: Its Application in Explaining Drug Use Behavior Among Cuban and Other Hispanic Youth

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INTRODUCTION

This chapter addresses central issues regarding the conceptualization and measurement of culture change and their relationships to drug use among Hispanic adolescents. This is an important area of research because the Hispanic population of the United States is increasing rapidly and much remains to be learned that could assist with the development of efficacious interventions. The field of culture change and drug use among Hispanic adolescents has been the focus of recent acculturation studies (Szapocznik et al. 1977, 1978*a*, 1978*b*, 1979*a*, 1979*b*; Szapocznik and Truss 1978). These studies, which were based primarily on clinical observations, found that culture change was more accelerated for Cuban male adolescents than for either female adolescents or their parents, often resulting in intergenerational conflicts about behavioral expectations. When this occurred, deviant behavior and drug use increased despite parental efforts to regain control over their children. Simply stated, this model postulates that "gaps" in cultural orientation between male adolescents and their parents will likely produce family conflicts leading to drug use in the younger generation.

This is a provocative finding with multiple ramifications. Although this explanation is plausible and empirically verifiable, it remains to be demonstrated *under what conditions* acculturation gaps or any other acculturation factors will lead to a drug use outcome. Because it is likely that many more children who also experience intergenerational acculturation gaps do not exhibit deviant behavior or become drug users, it is important to refine one's thinking for predicting which adolescents are at greatest risk. A more comprehensive theory must be developed, one that includes explanatory factors in addition to cultural orientation if it is to be determined whether intergenerational acculturation gaps have a primary effect on adolescent drug use or whether other factors are mediating this relationship. The purpose of this chapter is to explore the conceptual and empirical bases for addressing this issue, thereby elaborating and expanding acculturative stress theory.

CULTURE-CHANGE AND LIFE-CHANGE RESEARCH

Paradoxically, there has never been a formal connection between life-change and culture-change research. The life-change literature, primarily embedded in what has come to be known as stress-process research, has focused on traumatic and persistent stressors to explain negative health outcomes (Hough 1985). In recent years, this research has proliferated in social psychiatry and immune-response clinical epidemiology (Lazarus 1966; Goldberger and Breznitz 1982; Lazarus and Folkman 1984). This research has included the investigation of gender roles, unemployment, marital discord, the absence of social support, poverty, and a host of other life stressors to determine if they singly or cumulatively serve as etiologic factors in the development of mental or physical disorders. However, culture change usually has not been incorporated in this research as an important life-change stressor (Vega et al. 1985). Nonetheless, life-change/stress-process investigators have developed sophisticated theoretical and empirical models for understanding how transactions between person and environment can lead to deleterious outcomes for selected classes of individuals (e.g., see Pearlin and Schooler 1978 or Pearlin et al. 1981).

Research on culture change historically has been dominated by anthropologists and sociologists. Early studies have focused either on (1) the impact of culture change on individuals living within traditional societies, such as through introduction of new technology, or (2) the social adaptation of migrants and immigrants in new environments. The research on immigrants has produced important social-psychological insights about how individuals deal with culture change and about the potential for disorganizing effects on personal functioning. Indeed, American sociology benefited mightily from studies of immigrants. The Chicago School in the 1920s and 1930s derived much of its conceptualization of deviance theory from observations of immigrants and migrants (Park et al. 1925; Burgess 1926; Thrasher 1927; Wirth 1928). Theories about social control, differential association, and social marginality were all influenced by observing immigrant populations.

There are important parallels between the culture-change and stress-process literatures (Fabrega 1969; Favazza 1980). Both deal with the social psychological adaptation of individuals faced with challenging environmental demands. Researchers interested in culture change, however, have tended to prefer explaining individual responses to cultural adaptation by emphasizing the social processes associated with socialization and/or by addressing the formulation of subcultures, their persistence, and their development into enduring enclaves. The work of Stonequist (1937) was an important intellectual precursor in this regard, and his conceptualization of culture change ties directly to reference group theory, as well as to contemporary models of acculturation (Padilla 1980; Keefe and Padilla 1987). For example, Stonequist (1937) observed that ethnic individuals faced with the problem of adapting to a dominant culture could either identify fully with the subculture of origin, accept a new cultural identity as majority group member, or become a "marginal man" with broad knowledge of both cultures but without total allegiance (or reference group identification) in either. Stonequist, along with other early scholars, concluded that the process of cultural assimilation could either be personally liberating or lead to alienation and isolation.

Mead (1949) distinguished between the problem of cultural adaptation faced by first- and second-generation immigrants. She reasoned that second-generation individuals (e.g., children of immigrants) would be more prone toward personal disorganization than their parents precisely because they were more likely to face the problem of inconsistent socialization in the context of conflicting culture expectations. First-generation immigrants were more firmly attached to nation-of-origin cultural values, beliefs, and behaviors despite exposure to different cultural information and lifestyles. Again, these observations converge with notions about environmental demands and personal responses, which are the basis of stress-process research.

The wide social science literature on culture change exhibits several major weaknesses that limit its value for explicating more fully the social and personal consequences of acculturation and acculturative stressors. First, the processes of culture and social adjustment are defined only very broadly, making it difficult to empirically operationalize tests of specific hypotheses. Second, temporal relationships are not well understood. Do acculturation stressors continue to occur throughout life? What are the critical life course junctures in culture change for personal development? Third, do all culture changes have negative consequences for those who experience them? If not, what are the characteristics of individuals who are more likely to be adversely affected (Kuo 1976; Vega et al. 1987)?

Stress-process theory may be useful for clarifying some of these enigmas because the interplay of stressors and the personal responses to stressors can be specified and tested. Szapocznik and colleagues suggest that intergenerational gaps in acculturation produce adolescent drug use, which is an empirically verifiable postulation. However, this explanation of intergenerational conflicts, based primarily on clinical observations, fails to specify a process that renders some individuals vulnerable to drug use whereas others, perhaps even most others, remain drug-free. Indeed, it could be argued that child-parent conflicts are universal and that culture change is merely an additive factor. Within this mode of explanation, it may be more important to focus on why some Hispanic families are more prone than others toward severe conflicts, even when both face the same burdens of culture change. Factors such as marital discord, family income, perceived discrimination, and language problems could be implicated (Vega 1990). And to what extent do personal characteristics of adolescents predispose them toward intergenerational conflicts? The use of stress-process models may facilitate disentangling a series of these interlocked questions, especially if the theory is transactional, thereby permitting a verification of suspected causal linkages over time.

SYNTHESIZING CULTURE CHANGE AND STRESS THEORY

One of the central premises of stress theory is that the effects of stressors are nonspecific (Aneshensel et al. 1991). That is, exposure to stressors increases vulnerability in a generalized way. Therefore, these explanatory models of stress effects are not problem or disorder specific. In the context of explaining Hispanic adolescent drug use, a model that takes into account multiple stressful exposures related to culture change may predict discrete or simultaneous outcomes such as drug use, behavior problems, or psychopathology. Another premise of stress theory is that stressors are only causal when personal resources are inadequate to mediate stressors. In short, demands must exceed resources to effect a negative outcome (Warheit 1979).

A model such as that presented in figure 1 allows for the testing of competing hypotheses about acculturation stressors. It is also compatible with theories current in deviance research, such as the self-derogation model of Kaplan and colleagues (1986, 1987). Moreover, and most important, it is a parsimonious approach to the study of adolescent drug abuse, a research area noted for clusters of theory and research that are not systematically integrated. As noted by other investigators (Bry et al. 1982), comprehensive explanatory frameworks are needed for integration of competing theories. Logically, this should include testing submodels of acculturative strain in the context of other stress model factors that may influence their effects.

Note that in figure 1, cultural orientation is postulated as an exogenous independent variable. Cultural orientation is defined as cultural behaviors and is conceptualized as a continuum from monocultural Hispanic to monocultural non-Hispanic white, with the midpoint being biculturalism. Despite obvious conceptual limitations inherent in a unidimensional approach, this is the logic employed in most widely used measures of acculturation. However, it is important to recognize that the model depicted in figure 1 distinguishes cultural

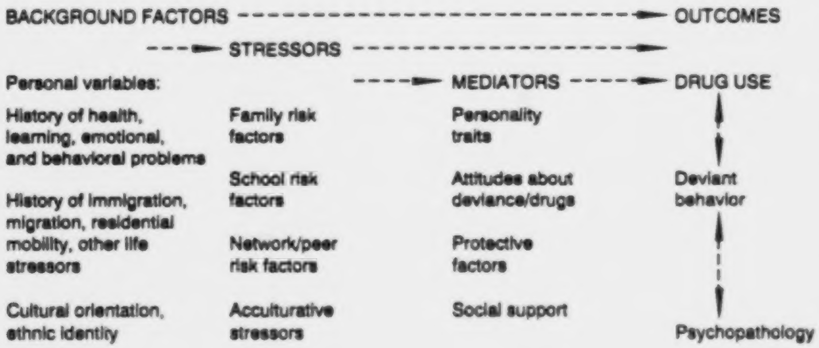
BACKGROUND FACTORS
OUTCOMES
STRESSORS
Personal variables:
MEDIATORS
DRUG USE
History of health, learning, emotional, and behavioral problems
Family risk factors
Personality traits
School risk factors
Attitudes about deviance/drugs
Deviant behavior
History of immigration, migration, residential mobility, other life stressors
Network/peer risk factors
Protective factors
Cultural orientation, ethnic identity
Acculturative stressors
Social support
Psychopathology

FIGURE 1. *Integrative framework of Hispanic adolescent drug use*

orientation from acculturative stressors and cultural protective factors. Acculturative stressors include intergenerational gaps in cultural orientation, language problems, perceived discrimination toward self or significant others, perceived cultural incompatibilities, and commitment and/or lack of commitment to culturally prescribed protective values/behaviors such as familism and cultural pride. An implicit assumption of the model is that acculturative stressors are interactive and as such are related to the other stressors found in the domains of family, school, and peer functioning. Table 1 presents a glossary of variable definitions that correspond to figure 1.

This model also assumes that, even in the presence of acculturative stressors, illicit drug use will not occur if mediating factors are present. For example, if personal attitudes about illicit drug use are negative, family functioning is adequate, and positive self-esteem and internal controls are present in the adolescent, these should operate conjointly to mitigate the impact of acculturative and other stressors. This model does not constitute a basis for an integrated theory of acculturative stress and drug use among Hispanic adolescents in its current form. Rather, it is a logical step toward formulating such a theory because it permits the operationalization of theoretical constructs that can be tested empirically and, as a consequence, determine the salience of acculturative stressors as causal factors in the onset of drug use and drug-related problems. It is also a highly synthetic approach because it provides a basis for incorporating important theoretical components of social control, subcultural deviance, self-derogation, social learning, and other social psychological theories as well.

TABLE 1. *Sample variables for the integrative framework*

Variables	Operational Definitions
Background factors	
Personal variables	History of health, learning, emotional, and behavioral problems
History of immigration	Residential mobility Length of residence in the United States Context of exit from country of origin
Cultural orientation, ethnic identity	Language use Family cultural orientation Personal values and practices Familism
Stressors	
Family risk factors	Family socioeconomic status Parental drug use Sibling drug use Low family pride Divorce/separation of parents Broken home
School risk factors	School attendance School performance Teacher derogation School behavior
Network/peer risk factors	Perception of peer approval for drug use Perception of deviant peer behavior
Acculturative stressors	Family acculturation conflicts Ethnic loyalty Language-related conflicts Intergenerational gaps Perceptions of discrimination
Mediators	
Personality traits	Risk taking Attention deficit problems Withdrawal/antisocial
Attitudes about deviance/drugs	Attitudes about deviant acts
Protective factors	Self-esteem Family cohesion and adaptability Family pride
Social support	Parental social support Social support from friends

OPERATIONALIZATION OF ACCULTURATION AND ACCULTURATIVE STRESS

Although acculturation measures are usually designed to measure cultural orientation, they are frequently used as an indirect measure of stress vulnerability. For example, hypothetically, if a second-generation Hispanic has a non-Hispanic white cultural orientation, as assessed by an acculturation scale, this person is presumed to be at increased risk for drug use or mental health problems because he or she is exposed to more culture-based conflicts and behavioral expectations favoring experimentation with drugs. This approach is exemplified by Burnam and colleagues (1987), who report that high-acculturation Hispanic individuals, in this case Mexican-Americans, were more likely to have a history of DSM-III psychiatric disorders, including substance abuse problems, at some time in their lives. It is important to note, however, that these findings are limited for the purposes of this chapter in that no direct assessment of acculturative stressors was employed.

It is the authors' premise that conceptual clarity requires distinguishing cultural orientation from acculturative stressors. Furthermore, acculturative stressors and cultural protective factors need to be carefully defined and delineated. Although there are numerous scales for assessing acculturation level, there are almost none available for identifying the acculturative stressors or cultural protective factors that may be related to adolescent drug use and other forms of deviant behavior. Furthermore, there is a need to develop acculturation (e.g., cultural orientation) and acculturative stress measures that are efficient for survey research and suitable for use with adolescents belonging to diverse Hispanic ethnic groups. Most scales now in use were developed for use in only one Hispanic ethnic group (e.g., Cubans, Mexican-Americans).

DEVELOPMENT OF MEASURES

This chapter reports the development of several scales intended to measure cultural orientation and acculturative stressors. These measures were developed for use in a large longitudinal study of adolescent drug use. The study is explicitly designed to identify interethnic and intraethnic differences in prevalence, stages, and risk factors for drug use, as well as to test competing social psychological theories of adolescent drug abuse, including acculturative strain. The eligible cohort for the baseline survey included all entry-level middle-school boys, as well as a subsample of girls, in the greater Miami, FL, area. In fall 1990 there were approximately 10,836 eligible boys within 48 schools who received consent forms. More than one-half of these students are of Hispanic descent. After using active consent procedures, 8,592 consent forms were returned. The Hispanic students returned 81.9 percent of their consent forms, and the overall return rate was 79.4 percent. After adjusting for missing information and for deletion of some students from the sample for administrative reasons, questionnaires were returned by approximately 6,700 male students. Data on a subsample of approximately 700 female students also were included.

In addition to the data from self-administered student questionnaires, collateral information was secured from 3,025 parents. The parents were randomly selected and interviewed by telephone. The overall response rate for the parent interviews was 87 percent. The data from the student and parent samples were further augmented by teacher ratings, thereby providing three discrete observations, at the same time, for each adolescent in the special subsample. The objective of using collateral informants was to attain a more comprehensive understanding of the students' functioning and social adaptation, other than just his or her own opinion of themselves. Inasmuch as this is a longitudinal study, the same students will be reinterviewed once a year for 3 years during middle or junior high school. For students selected at baseline for collateral informant ratings, the authors will continue to secure data annually from both parents and teachers.

There was a need to develop scales for use with the Hispanic adolescents to test the model depicted in figure 1. This scale development work proceeded in several stages. The pertinent literature was reviewed and acculturation scales assessing cultural orientation were identified (Padilla 1980; Cuellar et al. 1980; Szapocznik et al. 1978*a*; Montgomery and Orozco 1984; Marin et al. 1987). A similar process was used to identify acculturative strain and cultural protective factors scales. Much less was available for assessing strains and protective factors. We used the familism scale developed for use with Puerto Ricans in New York by Rodriguez and colleagues (Rodriguez and Weisburd 1991). The acculturative strain scales were original. However, we received guidance from the work of Cervantes and colleagues (1990).

The final result was a compendium of scales with overlapping content. This list of measures was refined through pilot-testing using 251 boys and girls of mixed Hispanic heritage enrolled in the sixth and seventh grades. The acculturation, acculturative strain, and protective factors scales were factor analyzed using principal component analysis with varimax rotation. The items were grouped both by content area and according to original scale configuration. Primarily, content grouping was used for factor analyses because this technique is more consistent with the theoretical aims of the study. Factors with eigenvalues of 1.0 or higher were retained as meaningful, and variables with loadings of .50 or higher were retained as indicators.

Because an important goal of this research is to determine what acculturation-related factors are related to deviance and drug use, preliminary validity studies were conducted (for details see Vega et al., in press). Other comparisons were made to determine whether the scales were sensitive to nativity, years in country, and language version of the questionnaire. These analyses assisted in selecting items/scales for use in the baseline questionnaire. The acculturation (cultural orientation) scale of seven items that resulted from this pilot work was also used in the parent interview schedule. This permitted direct computation of acculturation gaps between parents and children. However, because these measures were developed using students of mixed Hispanic heritage, it was not clear whether the performance of the scales, in terms of internal consistency, factor loadings, and validity tests, would be similar for Cubans as well as for other Hispanics. The other Hispanic students constitute a larger proportion of the sampling universe than do the Cuban students.

The results reported in this chapter compare Cuban and other Hispanic subsamples on factor analyses results and validity studies using baseline data. Approximately 4,238 Hispanic students participated in the baseline survey, and of these, 1,745 were Cuban. The remaining 2,493 were of other Latin American ancestries. The Cuban boys had longer residence in the United States and were more likely to be born in this country. Overall, the Cuban boys were also of higher socioeconomic background than the other Hispanic boys. Nonetheless, there is a representative distribution across the SES range within both groups. The other Hispanic group is composed primarily of boys whose family origins are in Caribbean basin countries, especially in the Central American region. The largest subgroup is from Nicaragua. Significant numbers of Colombians, Dominicans, Puerto Ricans, Venezuelans, Salvadorans, and Hondurans are also present. Many of the Central Americans are recent refugees and speak only Spanish.

To ensure the highest quality data, several versions of the baseline questionnaires were developed to accommodate diverse reading levels and language preferences (Zimmerman et al. 1991). Inasmuch as the pretests revealed that many Central American boys could not read well in any language, all students enrolled in special English for Speakers of Other Languages classes were administered questionnaires in group sessions with a proctor reading all questions and responses. Students who understood English but had marginal reading ability were provided a self-administered questionnaire. However, these students were given two consecutive 50-minute class periods to complete their responses. All other students completed their questionnaires in one 50-minute classroom period.

PERFORMANCE OF SCALES-FACTOR ANALYSES

Appendix A lists the acculturation and acculturative strain scales and scale items for both Cubans and other Hispanics. The item composition of each scale, as well as the alphas for each, are remarkably similar for both groups.

There is only one point of dissimilarity, which occurs in the Language Behavior Scale. The item "How much do you enjoy English-language magazines?" appears as part of this factor only for other Hispanics. Appendix B presents a revised version of this scale, which contains identical items for both groups, but with a higher alpha coefficient, indicating improved internal consistency of items. This was accomplished by substituting the item "What language do you prefer to speak?" in the scale. The authors recommend this second version as the prime measure of acculturation (cultural orientation) among Hispanic adolescents.

A second noteworthy point is the unsatisfactory alphas for the cultural values scale, which occurred for both Cubans and other Hispanics. This lower alpha may be a function of having situated these two items in different sections of the questionnaire, something that was not done in the pilot development studies. As a result, these items are not appropriate to use as a scale, and their value as individual indicators of protective cultural effects should be carefully assessed. Because of the lower alpha, this scale was omitted from the analyses.

VALIDATION COMPARISONS-CONSTRUCT VALIDITY

Table 2 presents comparisons for construct validity. A series of *t*-tests and Pearsonian correlations were conducted to determine the relationships between the acculturation/acculturative strain scales and three dependent variables: language version (language of questionnaire), Hispanic born (foreign vs. U.S. nativity), and length of residence in the United States. Appendix C provides a summary of the direction used to score each scale. For example, a higher score on the language scale indicates a preference for using Spanish in various settings. In turn, this is associated with using a Spanish-language questionnaire and foreign nativity and negatively related to length of residence in the United States.

As seen in table 2, the Language Behavior, Family Cultural Orientation, Language-Related Conflict, and Familism scales have consistent and statistically significant relationships with the three validating variables. This pattern holds for both Cuban and other Hispanics. The final two scales present interesting potential insights. The Family Acculturation Conflict scale was significant only for foreign-born Cubans and for Cubans with less time residing in the United States. This may be a Cuban culture-specific pattern of cultural adjustment. However, much more detailed analysis must be performed before any definitive interpretation is possible.

The last scale, Ethnic Awareness, was not considered, a priori, to be associated with the validating variables but was included for purposes of exploring linkages between acculturation/nativity and perceived discrimination due to ethnicity. It is quite interesting to note that there are no significant relationships between

TABLE 2. *Validation comparisons for acculturation scales*

Scales	Other Hispanics			Cuban Hispanics		
	Language Version	Foreign Born	Length Residence in U.S.	Language Version	Foreign Born	Length Residence in U.S.
Language Behavior	S>E ***	H>US ***	-.597 **	S>E ***	H>US ***	-.467 **
Family Cultural Orientation	S>E ***	H>US ***	-.378 **	S>E ***	H>US ***	-.272 **
Language-Related Conflict	S>E ***	H>US ***	-.448 **	S>E ***	H>US ***	-.415 **
Familism	S>E ***	H>US ***	-.310 **	S>E ***	H>US ***	-.203 **
Family Acculturation Conflict	NS	NS	NS	NS	H>US ***	-.057 **
Ethnic Awareness	NS	NS	NS	NS	NS	NS

NOTE: *p<.05, **p<.01, ***p<.0001; *t*-test used with dichotomous variable; Pearson correlation used with continuous variable

KEY: S>E=Adolescents taking the Spanish version of questionnaire scored higher on the scales than those taking the English version. H>US=Adolescents born in a Hispanic country scored higher on scales than those born in the United States. NS=not significant.

scores on this scale and the three validating variables. This suggests that perceptions of prejudice are similar among both low- and high-acculturation Cuban boys and for other Hispanic boys as well.

CRITERION VALIDITY COMPARISONS

Table 3 compares the scales to four criterion variables. The moderate and serious deviance scales were derived from the work of Kaplan and colleagues (1986). (These scales, their constituent items, and the alpha coefficients for both Hispanic subsamples can be found in appendix D.) Lifetime alcohol use was measured in the baseline questionnaire as a continuous variable. The drug use variable is a compound continuous variable that identifies any illicit drug. For the Language Behavior scale, preferring to use Spanish was negatively related to both moderate deviance and lifetime alcohol use for other Hispanics only. Because language preference has been found to be a powerful predictor of acculturation, it is somewhat surprising to find no statistically significant relationships between language preference and deviance and/or substance use among Cuban boys. Family Cultural Orientation was found not to be significantly related to deviance or substance use for Cuban boys. These findings suggest that family cultural orientation does not have a direct effect on substance use among Cuban boys.

Some of the most impressive findings from these analyses are the consistent significant relationships between the various scales and the criterion variables for both Cuban and other Hispanic boys. The four acculturative strain and protective factor scales are: Language-Related Conflict, Familism, Family Acculturation Conflict, and Ethnic Awareness. Language-related conflict is significantly correlated with serious deviance in both groups: with drug use among Cubans and alcohol use among other Hispanics. A high degree of familism was found to be negatively correlated with deviance and substance use in both groups. Family acculturation conflict, which combines family and extra-family conflicts based on cultural strains, was significantly correlated with deviance and substance use in both groups. Finally, ethnic awareness, which taps perceptions of prejudice, was also consistently correlated with deviance and substance use in both subsamples. Curiously, however, the family acculturation conflict and ethnic awareness scale scores were not significantly correlated with lifetime alcohol use for other Hispanic boys only. This finding deserves special scrutiny in future analyses.

Overall, the scales have similar performance characteristics for both Cuban and other Hispanic subsamples. They also have consistent properties as determined by the construct and criterion validation studies. As noted above, some interesting discrepancies have been found that are worthy of closer examination. From the findings presented, however, there appears to be at least face validity to the assertion that both acculturative strains and

TABLE 3. *Correlations between acculturation scales and criterion variables*

	Other Hispanics				Cuban Hispanics			
Scales	Moderate Deviance	Serious Deviance	Lifetime Alcohol Use	Drug Use	Moderate Deviance	Serious Deviance	Lifetime Alcohol Use	Drug Use
Language Behavior	-.071 **	-.021	-.055 *	.001	-.037	.015	-.022	-.002
Family Cultural Orientation	-.107 **	-.091 **	.011	-.015	-.002	.010	-.044	-.013
Language-Related Conflict	.002	.090 **	-.078 **	.008	.074 **	.183 **	-.020	.182 **
Familism	-.096 **	-.033	-.161 **	-.056 *	-.064 *	.005	-.156 **	-.032
Family Acculturation Conflict	.146 **	.164 **	.007	.091 **	.170 **	.208 **	.079 **	.149 **
Ethnic Awareness	.160 **	.183 **	.017	.080 **	.165 **	.203 **	.126 **	.067 *

*p<.05; **p<.01; ***p<.0001

protective factors have important relationships with substance use among adolescent boys from multiple Hispanic ethnic groups. In the very near future, the confirmatory analysis with Hispanic girls will be completed to determine whether these findings are duplicated. As mentioned in the preceding section, which describes the development work on the scales, *both* boys and girls in equal numbers were used to create the scales in pilot tests. Therefore, it is not anticipated that these scales will perform any differently across gender groups.

DISCUSSION OF IMPLICATIONS

The development of a parsimonious theory requires significant exploratory analyses. Scale development has been an important aspect of these initial research efforts. Now, using an integrative framework, such as the one illustrated in figure 1, the structure of the data will be carefully analyzed. This will make it possible to clarify conjectures about suspected associations and to provide a more precise explanation of the relationships among cultural orientation, acculturative stress, and drug use. However, this is a complex task because the acculturation process is dynamic, and the study population is highly diverse. That is, any large-scale survey approach will intersect the lives of many subclasses of individuals (and families) with distinctive sociocultural characteristics, thereby representing many levels of cultural adjustment (Vega et al. 1983). The acculturation process is, after all, a multidimensional one.

Furthermore, as noted by Rogler and colleagues (1991), the salience of culture can be understood as consisting of both endogenous (i.e., cognitive structure) and exogenous (i.e., gender roles) forces situated in a cohort-specific historical experience. Careful theory development and testing are required for identifying culturally meaningful categories for comparison. It is also imperative to avoid confounding social class and cultural factors as they relate to drug use. For example, one desirable outcome would be to create typologies of individuals and families that are meaningful for description, prediction, and intervention.

The identification of cultural stressors, especially those related to drug use, is an important starting point for this research. The lifestyles of Hispanic adolescents need more scrutiny to uncover areas of tension that could have a cultural basis. All adolescents are subjected to new social expectations. They are learning new social roles and experiencing maturational changes. Experiences, including cultural ones, that may be stressful at one point in adolescence may be forgotten a few years later. Therefore, the "window" of impact on the lives of developing adolescents may be very narrow. For example, the consequences of acculturative strain for drug use may peak in early adolescence or, perhaps, only at some later point. Future analyses will determine whether acculturative stressors tend to be experienced in clusters or at a specific time during adolescence and whether strain effects on drug use interact with other risk factors.

Protective factors are also little understood. It is not clear whether there are particular values or cultural practices that somehow indemnify individuals with greater resistance to drug use. Neither is it clear how these putative protective factors operate in concert. It is possible that certain values or practices that are believed to be disproportionately concentrated in Hispanic ethnic groups, such as familism, may have protective effects. However, there is no consensus on what these values and practices are or how best to measure them. From a stress-process perspective, these cultural protective factors may operate in the same way as social support (Aneshensel and Stone 1982). That is, the *absence* of protective factors may have a direct effect on drug use, and the presence of protective factors may have a buffering or interaction effect on cultural stressors by reducing their impact on drug use. Therefore, even in the presence of intergenerational gaps in acculturation, there may be mediating effects on drug use due to familism or family pride or other protective factors.

Culture change and drug use are processes rather than static qualities of individuals or groups, although often they are thought about and measured as if they were inert. This poses many conceptual problems when individuals possess a spectrum of cultural traits reflecting unequal levels of change in cultural knowledge, behaviors, and beliefs. For example, what are the implications for acculturation theory when a discrepancy is discovered between cultural competencies and cultural preferences? If adolescents are competent within Hispanic culture, but strongly prefer non-Hispanic white culture, how does this affect the acculturation or acculturative strain process? What are the implications for explanatory models if acculturation is measured unidimensionally using linear scaling, when acculturation is believed to be a multidimensional process? What is the essential subset of characteristics for designating someone as monocultural or bicultural, and in what ways are these terms meaningful? Obviously, there are many more questions than can be answered with the current level of understanding, but it is important to be aware of the inherent complexity and challenges for theory development and hypothesis testing.

These types of issues arise frequently. For example, there are adolescents who have immigrated to the United States as small children and have grown up speaking Spanish at home. English was not learned until they reached school age. Although they retain operational knowledge of Spanish and of their culture of origin, they may prefer to speak English and to be interested primarily in activities that are not usually considered Hispanic.

McCarthy and Valdez reported in 1984 (cited in Vernez and Ronfeldt 1991) that 90 percent of second-generation Mexican-Americans have a working knowledge of English, whereas only 40 percent of those in the first generation have this knowledge. This differential portends rapid changes in cultural preferences, with the second generation much more likely to favor "American" cultural practices. At what point does one stop being considered "actively" Hispanic? Are individuals Hispanic even if they no longer perceive themselves to be Hispanic? There are important differences in using ethnic identifiers for cataloging people (as in the U.S. Census) and developing definitions useful in developing theories about culture change, strain, and their relationships to drug use. It is important to keep these differences in perspective when developing explanatory theories. The authors believe that the way adolescents think about themselves and how they interpret their experiences are better predictors of the use or nonuse of drugs than are arbitrary definitions of ethnicity whose primary purposes are centered around demographic enumerations.

Acculturative strain and other life stressors are usually assessed through self-report. Therefore, these reports are products of subjective assessments. In a multitude of ways, mood and personal power can influence perception. As a result, the same event may be interpreted quite differently by two individuals. Therefore, it is not the nature of the event but the interpretation given to that event that provides meaning. If a teacher tells a boy that his limited English skills are the reason for a poor grade in a social studies class, he may or may not interpret this as a culturally related strain or a discriminatory act. It may be that individuals with fewer personal or family resources will be more likely to "perceive" greater amounts of culturally based strain because they have less power for managing their environment. This may be more likely to occur when there is a high degree of self-consciousness about minority group status. Parenthetically, adolescents with low self-esteem may be more likely to attribute their dissatisfaction in interpersonal relations to individual cultural preferences or ethnic characteristics. In this instance, one can ask, is self-esteem conditioned by cultural experiences, or vice versa? Given the well-known relationships between self-esteem and drug use, these are important areas for theory development and further empirical investigation.

Because there are many types of drugs and patterns of experimentation or abuse patterns, it may be that acculturative strain theory is more useful for depicting only certain typologies of substance abuse. It is premature to conclude what these might be. However, it is most likely that high-frequency experimentation and/or habituation to illicit drug use during early adolescence cannot be predicted from acculturative stress theory alone because these behaviors occur in the context of other key risk factors, such as family problems and personal behavior problems at home or school. However, if these interactive processes can be identified within the context of adolescent developmental stages, knowledge of the connection between acculturation and susceptibility to drug use will be greatly increased.

This overview of issues pertaining to the development of a coherent acculturation strain theory is necessarily brief and superficial. Nonetheless, it is apparent that researchers are dealing with a profound enigma that has important ramifications for theory and measurement. Intriguing combinations of forces are at work, and salient relationships will be established only through extended observations and carefully posed questions. In the opinion of the authors, a model such as the one displayed in figure 1 is useful for the exploratory stages of hypotheses testing and for the recasting of theoretical assumptions. However, our long-term objective is to move toward a more comprehensive theoretical formulation of acculturative strain effects and their relationships to drug use and to provide a much more pragmatic schema for carefully targeted empirical studies and intervention trials.

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APPENDIX A. *Acculturation scale items and alphas for Cubans and other Hispanics*

Language behavior in youth (Cubans, alpha=.780; other Hispanics, alpha=.792)
- What language do you speak at school?
- What language do you speak with friends?
- What language are the magazines you read?
- In general, in what language are the movies and television and radio programs you like to listen to the most?
- What kind of music do you listen to?
- How much do you enjoy English-language magazines? (This question applies only to other Hispanics.)

Family cultural orientation (Cubans, alpha=.772; other Hispanics, alpha=.790)
- How American or Latin are your mother's customs?
- How American or Latin are your father's customs?
- How American or Latin are your customs?

Language-related conflict (Cubans, alpha=.583; other Hispanics, alpha=.628)
- How often has it been hard for you to get along with others because you don't speak English well?
- How often has it been hard to get good grades because of problems understanding English?

Familism (Cubans, alpha=.617; other Hispanics, alpha=.663)

If someone has the chance to help a person get a job, is it always better to choose a relative rather than a friend?

When somebody has serious problems, only relatives can help.
Agree ___ Disagree ___

When looking for a job, a person should find work near his parents, even if that means he loses a good job somewhere else.
Agree ___ Disagree ___

Family acculturation conflict/ethnic loyalty (Cubans, alpha=.628; other Hispanics, alpha=.601)

How often have you had problems with your family because you prefer American customs?

How often do you get upset at your parents because they don't know American ways?

How often do you feel that you would rather be more American if you had a choice?

How often do you feel uncomfortable having to choose between non-Latin and Latin ways of doing things?

Ethnic awareness (Cubans, alpha=.564; other Hispanics, alpha=.589)

How often do people dislike you because you are Latin?

How often are you treated unfairly at school because you are Latin?

How often have you seen friends treated badly because they are Latin?

Cultural values (Cubans, alpha=.249; other Hispanics, alpha=.299)

How important do you think it is to respect your parents' wishes even if you disagree with them?

How important do you think it is to avoid doing anything that could embarrass your family?

APPENDIX B. *Final language behavior scale used in the analyses*

Language behavior in youth (Cuban Hispanics, n=1,609, alpha=.791; other Hispanics, n=2,133, alpha=.829

What language do you prefer to speak?

What language do you speak at school?

What language do you speak with friends?

What language are the magazines you read?

In general, in what language are the movies and television and radio programs you like to listen to the most?

What kind of music do you listen to?

APPENDIX C. *Key to scoring of acculturation scales*

For all the acculturation items in the questionnaire, high values indicate either adherence to Hispanic values or greater acculturation-related conflicts. To elicit appropriate responses, some questions were recoded. The rest of the questions were left as shown in the questionnaire because they are already coded to indicate acculturation conflicts with high values.

Key to Acculturation Scales

Language behavior in youth: The higher score indicates greater preference for Spanish and higher use of Spanish in various settings.

Family cultural orientation: The higher score indicates Hispanic customs.

Language-related conflict: The higher score indicates more conflicts caused by lack of knowledge of English language.

Familism: The higher score indicates a greater degree of importance or adherence to the family.

Family acculturation conflict/ethnic loyalty: The higher score indicates greater family conflict because the adolescent prefers American customs or because the parents' customs are not Americanized.

Ethnic awareness: The higher score means that the respondent feels that he and his friends are victimized because they are Hispanic.

Key to Other Variables

Language version: The higher value indicates that the questionnaire was taken in Spanish (English=1, Spanish=2).

Hispanic born: The higher value indicates that the respondent was born in a Hispanic country (born in the United States=0, foreign born=1).

APPENDIX D. *Measures of deviance*

Moderately prevalent deviance (Cubans, alpha=.618; other Hispanics, alpha=.597)

Within the last month did you:

Take between $2 and $50

Carry a weapon

Start a fist fight

Take things from someone else's desk or locker at school

Serious deviance (Cubans, alpha=.804; other Hispanics, alpha=.783)
Within the last month did you:
Take part in gang fights
Use force to get money or valuables from another person
Break into and enter a home, store, or other building
Damage or destroy property on purpose that did not belong to you
Take a car for a ride without the owner's knowledge
Take something worth more than $50
Beat up someone without cause

Validity of Self-Reports in Student-Based Studies on Minority Populations: Issues and Concerns

John M. Wallace, Jr., and Jerald G. Bachman

OVERVIEW

In recent years there has been a massive increase in research on drug use among American youth. During this period, the proportion of American youth who are from racial/ethnic minority groups has also grown substantially. (It is estimated that by the year 2000, 20 percent of the Nation's youth population will be African-American and 18 percent will be Hispanic [Dryfoos 1990, p. 16]). Despite the increase in research on drug use among youth and the growth of the minority youth population, research on drug use among minority youth is still quite limited.

Nevertheless, several recent studies have examined racial/ethnic differences in adolescent drug use. The findings from this research indicate that, on average, the prevalence of drug use is highest among American Indian youth, somewhat lower among white and Hispanic youth, and lowest among African-American and Asian-American youth (Austin 1988; Austin and Gilbert 1989; Austin et al. 1989; Bachman et al. 1990*a*, 1991; Kandel et al. 1976; National Institute on Drug Abuse 1990; Prendergast et al. 1989; Wallace 1991; Welte and Barnes 1987). In light of most minority groups' disadvantaged socioeconomic status, their relatively high dropout rates, and research that shows *adults* from minority groups disproportionately experience the negative consequences of drug abuse, these findings are somewhat contrary to expectations. Accordingly, the reliability and validity of these findings are of particular concern.

The present study uses large, nationally representative samples of high school seniors to investigate the racial/ethnic differences in adolescent drug use. This chapter first presents the self-reported patterns of drug use among white, African-American, Mexican-American, Puerto Rican and other Latino American (Puerto Rican/Latino), Asian-American, and American Indian youth. Then data are presented relevant to the reliability of these findings. Next, drug-related attitudes and perceptions are compared among the racial/ethnic groups. It is expected that racial/ethnic differences in drug-related attitudes and perceptions will largely parallel racial/ethnic differences in self-reports of drug use. The authors argue that such correspondence should be taken, to a considerable extent, as evidence of validity. Finally, the chapter discusses the extent to which racial/ethnic groups are differentially represented in national school-based student samples and considers the extent to which these and other issues limit the usefulness of student surveys to study racial/ethnic differences in drug use among minority youth.

MONITORING THE FUTURE

The data presented here are drawn from the Monitoring the Future Project, also known as the National Senior Survey. The study is one of two ongoing national studies, funded by the National Institute on Drug Abuse (NIDA), designed to provide estimates of drug use among American youth. The study has been conducted annually by the University of Michigan's Survey Research Center since 1975. The design and procedures are discussed briefly below; for greater detail see Bachman and Johnston (1978) and Bachman and colleagues (1987).

The study uses a three-stage sampling procedure that yields samples representative of high school seniors in the 48 contiguous states. Stage 1 of the sampling procedure is the selection of specific geographic areas; stage 2 is the selection of schools within each geographic area; and stage 3 is the selection of students within each selected school. Each year the sample includes roughly 17,000 students from approximately 135 schools. The study uses self-administered, machine-readable questionnaires. The response rates average about 83 percent. The primary reason that students are missed is that they are absent the day the questionnaires are administered.

To increase the number of questions that can be asked, five (six in 1989) different questionnaire forms are administered each year. Although the drug use measures are located on all five forms, most of the measures examined here to investigate the validity of self-reported drug use are located on only one form, thus reducing the number of cases by four-fifths. Another problem that reduces the number of cases is that most of the minority groups in the sample are small proportions of the Nation's total population. Accordingly, the number of minority high school seniors who respond to the questions on a single form in any one year is quite small. To address this problem of small samples, data are combined from 1980 through 1989. In light of earlier research, which has found sizable gender differences in drug use within the various racial/ethnic groups, data are presented separately for males and females.

RACIAL/ETHNIC DIFFERENCES IN DRUG USE: SELF-REPORTED PREVALENCE

Table 1 presents 30-day and annual rates of marijuana and cocaine use, daily and half-pack rates of cigarette use, and 30-day and heavy alcohol use (five or more drinks in a single sitting in the past 2 weeks) rates for white, African-American, Mexican-American, Puerto Rican/Latino, Asian-American, and American Indian seniors for the years 1980-89 combined.

Table 1 indicates that marijuana use among males and females is highest for American Indian seniors, followed by white and Mexican-American seniors, African-American and Puerto Rican/Latino seniors, and finally Asian-American seniors. Generally, cocaine use is most prevalent among American Indian seniors, and Mexican-American and Puerto Rican/Latino males, followed by white males. Prevalences among African-American males and the other groups are appreciably lower. Use of the licit drugs—cigarettes and alcohol—also shows sizable racial/ethnic differences in self-reported use. Cigarette use is highest among American Indian seniors, somewhat lower among white seniors, at intermediate levels among the two Hispanic groups, and lowest among African-American and Asian-American seniors. Alcohol use shows a pattern fairly similar to that of cigarette use, with prevalence particularly high among white and American Indian seniors and low among African-American and Asian-American seniors. In summary, table 1 shows sizable racial/ethnic differences in drug use among American high school seniors.

RACIAL/ETHNIC DIFFERENCES IN DRUG USE: ARE THEY RELIABLE?

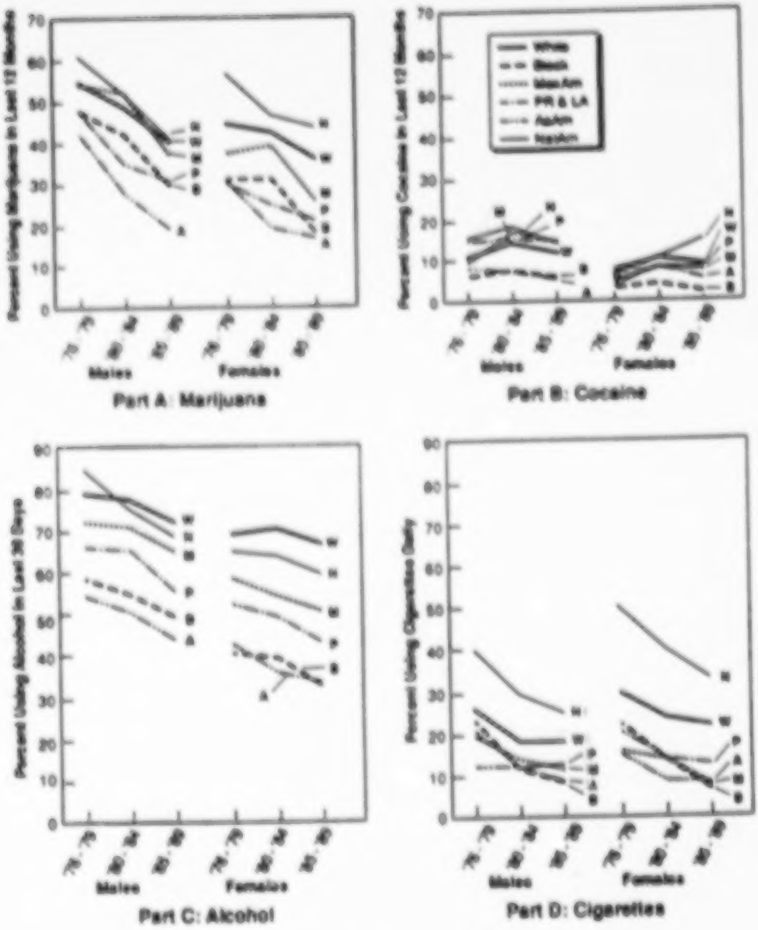
Are these sizable racial/ethnic differences in self-reported drug use reliable? Within the scientific community, when different studies arrive at similar conclusions, a particular finding is generally regarded as reliable. Recent research and reviews of the literature on racial/ethnic differences in drug use (e.g., Austin 1988; Austin and Gilbert 1989; Austin et al. 1989; Bachman et al. 1991; Kandel et al. 1976; Welte and Barnes 1987; Oetting and Beauvais 1990; Prendergast et al. 1989; National Institute on Drug Abuse 1990; Wallace and Bachman 1991) report findings that are largely consistent with those mentioned above.

As further evidence of the reliability of these findings, this chapter presents data from Monitoring the Future that show the racial/ethnic differences in self-reported patterns of drug use over time. Figure 1 indicates that, generally, there have been large declines in the levels of drug use among American youth over the past decade and a half. The figure also makes it clear that the large declines in drug use have occurred across groups and that the patterns of racial/ethnic differences have existed over time.

TABLE 1. *Racial/ethnic differences in self-reported high school senior drug use by sex (1980-89): percentages for males and females*

Type of Drug Use	White (M=58,084)* (F=60,937)	African-American (M=7,554) (F=9,982)	Mexican-American (M=2,259) (F=2,338)	Puerto Rican/ Latino (M=1,206) (F=1,290)	Asian-American (M=1,581) (F=1,457)	American Indian (M=1,043) (F=862)
30-day marijuana use						
Male	29.1	24.8	30.2	21.0	12.9	34.2
Female	22.9	15.4	17.8	12.7	10.1	27.9
Annual marijuana use						
Male	44.5	36.2	45.1	32.9	24.1	47.3
Female	39.3	24.9	32.7	23.2	18.3	45.6
30-day cocaine use						
Male	5.9	3.1	8.7	8.7	2.7	8.7
Female	4.4	1.8	3.2	4.2	3.8	7.9
Annual cocaine use						
Male	13.1	7.0	16.1	15.6	8.7	16.4
Female	10.0	3.4	7.8	8.4	7.2	13.4
Daily cigarette use						
Male	18.7	10.1	13.1	12.8	11.0	28.3
Female	23.3	10.3	11.0	13.8	9.2	37.3
1/2 pack per day or more						
Male	13.1	4.0	5.8	6.1	5.2	21.1
Female	14.8	3.7	3.4	5.5	4.7	24.5
30-day alcohol use						
Male	75.1	52.2	68.0	60.6	47.4	72.4
Female	68.6	36.1	52.3	46.2	35.2	62.4
5+ drinks in past 2 weeks						
Male	51.1	24.5	47.5	33.9	21.9	53.7
Female	33.0	10.3	24.4	16.9	10.6	36.4

*N reported is minimum n across drugs.



Part A: Marijuana

Part B: Cocaine

Part C: Alcohol

Part D: Cigarettes

FIGURE 1. *Trends in use of four drugs, 1976-89, by sex and race*

KEY: N=Native American; W=white; M=Mexican-American; P=Puerto Rican/Latino; B=African-American; A=Asian-American

SOURCE: Bachman, J.G.; Wallace, J.M., Jr.; O'Malley, P.M.; Johnston, L.D.; Kurth, C.L.; and Neighbors, H.W. Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors 1976-1989. *Am J Public Health* 81(3):372-377, 1991. Copyright 1991 by American Public Health Association (Washington, DC).

Because the patterns of racial/ethnic differences in drug use replicate across studies and over time, it can be concluded with some confidence that the findings of racial/ethnic differences in drug use are *reliable*. Nevertheless, the question remains: Are these highly replicable (and thus reliable) findings also *valid*?

RACIAL/ETHNIC DIFFERENCES IN DRUG USE: ARE THEY VALID?

There is a growing literature on the validity of self-reported drug use measures (e.g., Johnston et al. 1984; Johnston and O'Malley 1985; Malvin and Moskowitz 1983; O'Malley et al. 1983; Smart and Jarvis 1981), but little of this research focuses on the validity of these measures among minority populations. In one of the few studies to examine racial/ethnic differences in the validity of young people's self-reported drug use, Mensch and Kandel (1988) reported that African-American and Hispanic youth are more likely than white youth to underreport their use of marijuana. The data examined by Mensch and Kandel were drawn from the National Longitudinal Survey of Youth (NLSY), which is conducted in respondents' homes and employs drug use measures that are given and responded to verbally. Having to respond verbally to such sensitive material as drug use may have caused some of the young people to be concerned about the confidentiality of their responses. In the absence of more objective criteria (e.g., blood samples, urinalysis), the present study uses several subjective attitude and perception measures to examine the internal validity of racial/ethnic differences in high school seniors' self-reported drug use. Internal validity, as used here, refers simply to having attitudes, beliefs, and perceptions about drugs that are logically consistent with self-reported patterns of use. To investigate the validity of the self-reports of drug use, racial/ethnic differences in seniors' responses to five drug-related perceptions and attitudes are examined. The measures ask about (1) the risk level that students perceive is associated with using a particular drug (perceived risk), (2) students' disapproval of someone (18 or older) using a particular drug (disapproval), (3) students' perception of their friends' disapproval of them (the students) using a particular drug (friends' disapproval), (4) the number of their friends who students perceive use drugs (friends' use), and (5) the extent to which students are around people who use drugs (exposure).

It seems reasonable to expect that students who use drugs least would perceive greater risk in the use of drugs, express greater disapproval in drug use, perceive greater disapproval of their using drugs by their friends, perceive that fewer of their friends use drugs, and report less exposure to people who are using drugs. In line with these expectations and parallel with self-reported patterns of use, it is also expected that perceived risk, disapproval, and peer disapproval will be *highest* among African-American and Asian-American seniors, at intermediate levels among Hispanic seniors, and *lowest* among white and American Indian seniors. Conversely, it is expected that friends' use and exposure will generally be *lowest* among African-American and Asian-American seniors, at intermediate levels among Hispanic seniors, and *highest* among white and American Indian seniors. Some discussion and qualifications on these expectations are outlined below.

There are several reasons for expecting some relationship between racial/ethnic subgroup differences in self-reported drug use and subgroup differences in various perceptions and attitudes related to drug use. First, individual-level analyses show that these perceptions and attitudes correlate with drug use; in other words, students who use a particular drug are more likely than others, for example, to have friends who use that drug, to be relatively nondisapproving of the use of that drug, and to perceive relatively limited risk in the use of that drug. Several causal interpretations of these relationships are possible. For present purposes it is not necessary to resolve the attitude-behavior controversy, but detailed analyses of secular trends in marijuana and cocaine use strongly indicate that the shifts in attitudes about these drugs contribute to the declines in use, rather than the reverse (Bachman et al. 1988, 1990*a*). The causal interpretation is more difficult in the case of friends' drug use. On the one hand, association with drug users may contribute to use; on the other hand, an inclination toward drug use may lead one to associate with other users. In any case, the most basic reason for expecting subgroup differences in perceptions and attitudes about drugs is a simple general proposition: Such factors are correlated with drug use, so if the subgroups differ in their use of drugs, then (other things being equal) they should also differ in these correlated perceptions and attitudes.

However, there are some limitations to this general proposition, and these vary to some extent from one kind of perception or attitude to another. Thus, it will be useful to consider each of the attitude/perception dimensions in turn and to examine why racial/ethnic differences are expected in each.

Perceived Risks of Using Particular Drugs

It seems reasonable to suppose that students who see the use of a drug as risky will be less likely to use it. The survey data relying on self-reports confirm this expectation. If there are subgroup differences in background and experience that lead to different levels of drug use, it seems likely that many of these would operate via different perceptions of risk.

Disapproval of Using Particular Drugs

The argument here is similar to that for perceived risks. Individuals who disapprove of certain types of drug use (by people 18 years of age and older) are less likely to engage in such use (Bachman et al. 1988, 1990*a*). Whatever social forces may operate to generate subgroup differences in drug use are likely to produce parallel (perhaps causally prior) differences in disapproval. Of course, the extent to which there are any general subgroup differences in a willingness to endorse a "live-and-let-live" attitude toward drug use *by adults in general* could produce differences (or nondifferences) that would not parallel the differences in use.

Perceptions of Whether Friends Would Disapprove of Respondents' Use of Drugs

Individuals, especially young people, shape their behavior to some extent according to their perceptions of how significant others would react. In general, high school seniors' perceptions of how their friends would react to their use of a particular drug are correlated with their own (self-reported) use of the drug. This correlation likely reflects some degree of conforming to friends' expectations (as perceived), as well as the factors of friendship selection discussed above. Given this general correlation between individual behaviors and perceptions of friends' attitudes, it seems reasonable to conclude that, if the racial/ethnic differences in self-reports reflect genuine subgroup differences in actual use, there should be corresponding subgroup differences in perceptions of friends' approval/disapproval. Several possible complications and qualifications (noted below) to this line of reasoning exist. In addition, any subgroup differences in willingness to express disapproval could further complicate the comparison.

Perceptions of Friends' Use of Drugs

It was noted above that associating with those who use a drug may increase an individual's likelihood of using that drug and also that those who already use a drug (or desire to do so) may seek out the company of other users. In addition, any community differences in factors disposing toward use of a drug are likely to contribute to the correlation between individual use and friends' use. All these causal processes should operate to produce similar subgroup differences in friends' use and in the individual's use of drugs; therefore, to the extent that such parallels in subgroup differences do appear between reports of friends' use and self-reports of use, this may be treated as additional evidence supporting the validity of the subgroup differences in drug use.

There are some complications and qualifications in the line of reasoning noted in the paragraph above. Friendship groups are only *partly* matched in terms of race/ethnicity; moreover, simply because of differences in numbers and availability, African-American and other minority youth are more likely to have friends of other races than are whites. Similarly, minority youth are much more likely than whites to attend schools in which their own racial group is *not* in the majority. Finally, to the extent that friendship groups extend outside classmates and include those who have dropped out, those groups with higher dropout rates (especially Hispanics and American Indians) are more likely to have dropouts within their circle of friends—and dropouts are more likely to use drugs than are high school seniors (National Center for Education Statistics 1989). All these factors support expectation that subgroup differences in reported use of drugs by friends may not be as large as the subgroup differences in seniors' self-reports of drug use.

Exposure to "Other People" Using Drugs

Whereas some respondents were asked about their friends' use of drugs, other respondents were asked (using a different questionnaire) how often they were around people who were taking various drugs to get high or for "kicks." This would include friends but not be limited to them. Thus, the logic spelled out above with respect to friends should apply here as well. To the extent that seniors in some subgroups are likely to live in neighborhoods where drug use is more likely to be publicly displayed, such factors might reduce the parallel between "exposure" and self-reported use when compared across subgroups. On the other hand, to the extent that students are engaged in the use of a particular drug as a group activity, it would be expected that those young people who use drugs the most would also most often report being exposed to other drug users.

How Parallels Might Be Affected by Deliberate Underreporting

If some individuals are unwilling to report their own use of a drug, they also may be unwilling to report friends' use—but that seems less likely. Similarly, those who underreport their own use might also exaggerate their disapproval and perceptions of risk, just for the sake of consistency—but that seems still less likely. So if the racial/ethnic differences in self-reported drug use reflect differential willingness to report rather than actual differences in use, then one might expect to find that the subgroups differ much less in reports about friends' use and in (reported) attitudes and perceptions. At the extreme, if no subgroup differences were found in the perceptions and attitudes about drug use, then the subgroup differences in self-reports of use would be suspicious. On the other hand, noted above are some of the ways in which other subgroup differences—differences in perceived friends' use, for example—might reasonably be less pronounced than actual subgroup differences in drug use.

FINDINGS

Perceived Risk

Table 2 presents the data on perceived risk. More specifically, the table reports the percentage of males and females in each of the racial/ethnic groups

TABLE 2. *Racial/ethnic differences in perceived risk of selected drugs among high school seniors (1980-89): percentages for males and females*

Seniors Who Say People Take a Great Risk of Harming Themselves If They...	White (M=11,266)* (F=11,764)	African-American (M=1,586) (F=1,901)	Mexican-American (M=456) (F=477)	Puerto Rican/ Latino (M=228) (F=241)	Asian-American (M=309) (F=307)	American Indian (M=221) (F=181)
Try marijuana once or twice						
Male	12.9	25.7	21.4	25.0	26.8	19.5
Female	12.3	27.1	25.3	29.8	31.0	16.3
Smoke marijuana occasionally						
Male	21.3	35.3	39.4	37.1	42.3	27.1
Female	21.5	37.2	40.8	40.6	43.6	28.6
Smoke marijuana regularly						
Male	62.9	67.2	67.3	74.8	77.1	59.3
Female	72.0	75.9	77.7	81.0	80.7	65.2
Try cocaine once or twice						
Male	38.6	53.5	43.1	46.5	41.8	37.1
Female	39.1	48.7	52.8	38.8	44.9	39.1
Take cocaine regularly						
Male	80.1	83.7	78.8	81.9	86.5	71.6
Female	88.4	87.2	87.4	85.4	88.8	78.8
Smoke 1+ packs of cigarettes per day						
Male	64.0	68.4	69.7	66.2	67.6	52.5
Female	66.6	71.0	67.1	64.2	71.8	63.5
Try 1 or 2 drinks of alcohol						
Male	3.8	11.2	8.1	7.8	7.0	8.1
Female	2.9	9.4	8.4	9.8	6.9	6.8

TABLE 2. *(continued)*

Take 1 or 2 drinks nearly every day						
Male	17.9	28.7	22.8	30.9	27.3	16.5
Female	26.8	32.4	32.4	36.1	36.3	33.7
Take 4 or 5 drinks nearly every day						
Male	59.9	69.9	62.7	69.3	68.8	41.3
Female	75.2	78.1	71.1	76.7	80.5	62.9
Have 5+ drinks once or twice in a weekend						
Male	30.1	51.4	40.6	44.5	43.2	34.3
Female	43.4	62.5	54.0	53.6	56.2	47.0

*N reported is minimum n across drugs.

who say that people are at "great risk" of harming themselves if they use the drug in question at a specified level (i.e., once or twice, occasionally, regularly).

To what extent do the data fit the stated expectations? The data on perceived risk for marijuana closely parallel the data on self-reported use. Those groups that have the highest rates of use—American Indian and white high school seniors—are generally least likely to report "great risk" with use. Perceived risk associated with regular marijuana use is particularly high among Puerto Rican/ Latino and Asian-American seniors. Consistent with expectations, use among these two groups is low.

Relatively low proportions of American Indian and white seniors perceive great risk in experimental cocaine use. Although most groups of seniors perceive great risk with regular cocaine use, perceived risk is particularly high among the low-use groups—Asian-American and African-American seniors. Based on their relatively high prevalences of cocaine use, one might expect lower perceived risk of use than that reported among Mexican-American and Puerto Rican/Latino males.

The proportion of seniors who perceived great risk associated with heavy cigarette use is relatively low among American Indian males and relatively high among African-American and Asian-American females, but among the other groups the proportions of youth perceiving great risk are quite similar. Perhaps a measure of less intense use would have shown more variation across the various racial/ethnic groups.

Perceived risks of alcohol use also roughly parallel the patterns of self-reported use. African-American, Puerto Rican/Latino, and Asian-American seniors report distinctly lower alcohol prevalence rates than the other groups, and they also are more likely to perceive great risk with alcohol use across levels of use. Also consistent with patterns of self-reported use is the finding of much higher perceived risk among females relative to males.

Disapproval

Table 3 presents the data for seniors' disapproval of the use of particular drugs (by people 18 years or older). Figure 2 compares seniors' self-reported use of marijuana, cocaine, cigarettes, and alcohol and the percentage of them who "don't disapprove" of the use of the drug in question at the specified level.

With the possible exception of cocaine, the data on disapproval are largely consistent with racial/ethnic differences in self-reported use; among those groups who do not disapprove, use is relatively high (and vice versa). For example, American Indian, white, and (to a lesser extent) Mexican-American seniors report relatively high marijuana use prevalence rates and relatively high rates of not disapproving occasional marijuana use (figure 2).

The findings for cocaine are not as consistent as those for some of the other drugs. For example, although the percentage of American Indian seniors who do not disapprove of experimental cocaine use is relatively high, their self-reported use (at least among males) is comparable to that among most other groups. On the other hand, the percentage who do not disapprove among Mexican-American and Puerto Rican/Latino males is similar to that for other males, even though their self-reported use is relatively high. Findings for the licit drugs—cigarettes and alcohol—largely fit with expectations. Specifically, American Indian seniors, followed by white seniors, are most likely to smoke and are most likely to report that they do not disapprove of smoking. Similarly, relative to the other groups, African-American, Puerto Rican/Latino, and Asian-American seniors report low levels of heavy drinking and low levels of "not disapproving" heavy drinking (figure 2).

Friends' Disapproval

Given the importance of friends during adolescence, it is expected that friends' attitudes and behaviors (real or perceived) will relate strongly to adolescent behavior. The extent to which this expectation is confirmed varies by drug. For marijuana, subgroup differences in perception of friends' disapproval match fairly closely the subgroup differences in self-reported use (figure 3 and table 4). Figure 3 compares seniors' self-reported use with the percentage who said that their friends would not disapprove of them using the particular drug.

Perceived disapproval by friends of cocaine use is relatively high across groups, particularly for regular use (table 4). Puerto Rican/Latino seniors are most likely to perceive that their friends would not disapprove of their experimenting with cocaine. Consistent with this finding, among Puerto Rican/Latino seniors (particularly males) cocaine use is high. Although self-reported cocaine use is also relatively high among Mexican-American males, the proportion who say that their friends would not disapprove of their using cocaine is fairly low.

Although the proportions of seniors who report that their friends do not disapprove of their daily cigarette use are roughly comparable across groups, consistent with expectation, the group with the highest prevalence of cigarette use—American Indians—also report the highest percentage of friends who do not disapprove of cigarette use.

The findings for friends' disapproval of alcohol use fairly closely match the findings for self-reported use; white, Mexican-American, and American Indian seniors report the highest levels of friends who do not disapprove and the highest prevalences of use. Not surprisingly, smaller proportions of females

TABLE 3. *Racial/ethnic differences in reported disapproval of selected drugs among high school seniors (1980-89): percentages for males and females*

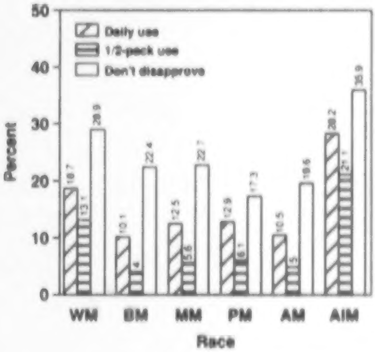
Seniors Who Say People Disapprove or Strongly Disapprove of People 18+ Doing the Following	White (M=11,970)* (F=12,459)	African-American (M=1,717) (F=2,076)	Mexican-American (M=486) (F=477)	Puerto Rican/ Latino (M=280) (F=258)	Asian-American (M=350) (F=311)	American Indian (M=220) (F=210)
Trying marijuana once or twice						
Male	46.3	58.2	61.0	67.5	61.0	52.2
Female	48.6	62.8	66.1	68.8	72.4	47.6
Smoking marijuana occasionally						
Male	59.9	68.2	69.8	77.7	76.1	58.8
Female	64.2	72.4	76.1	81.9	82.9	63.2
Smoking marijuana regularly						
Male	80.2	81.0	81.4	90.0	85.2	67.9
Female	87.3	88.8	90.4	95.2	94.3	77.3
Trying cocaine once or twice						
Male	77.3	84.3	80.0	82.6	82.1	67.2
Female	82.7	89.0	90.1	90.4	89.7	77.7
Taking cocaine regularly						
Male	92.1	91.5	90.3	93.2	91.3	83.8
Female	96.1	96.2	97.2	99.1	97.2	91.4
Smoking 1+ packs of cigarettes per day						
Male	71.1	77.6	77.3	82.7	80.4	64.1
Female	70.0	80.4	81.2	82.2	85.6	63.1
Trying 1 or 2 drinks of alcohol						
Male	14.9	35.3	32.6	29.3	32.5	26.9
Female	16.0	39.0	33.2	30.0	33.4	30.8

TABLE 3. *(continued)*

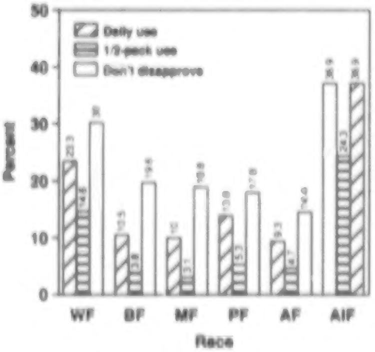
Taking 1 or 2 drinks nearly every day						
Male	61.8	76.9	74.1	80.4	75.2	61.3
Female	77.1	88.1	84.2	85.9	89.1	73.6
Taking 4 or 5 drinks nearly every day						
Male	87.2	90.8	86.5	95.4	91.3	74.4
Female	95.7	95.7	94.3	98.6	96.8	88.3
Having 5+ drinks once or twice in a weekend						
Male	47.9	73.2	58.2	72.9	75.8	40.6
Female	63.9	86.8	72.2	87.1	87.5	60.4

*N reported is minimum n across drugs.

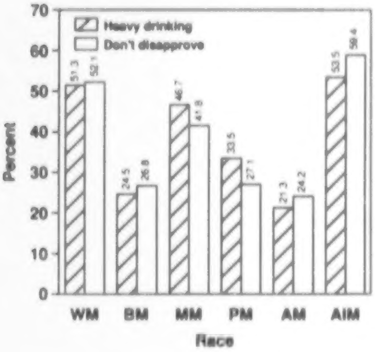
Daily and 1/2-Pack Cigarette Use and "Don't Disapprove" of Daily Cigarette Use by Racial/Ethnic Group: Males



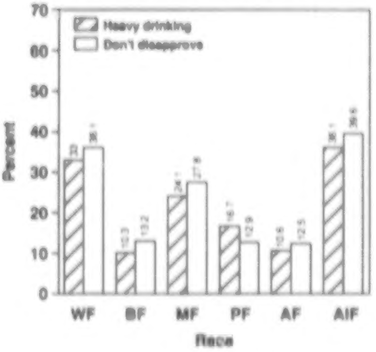
Daily and 1/2-Pack Cigarette Use and "Don't Disapprove" of Daily Cigarette Use by Racial/Ethnic Group: Females



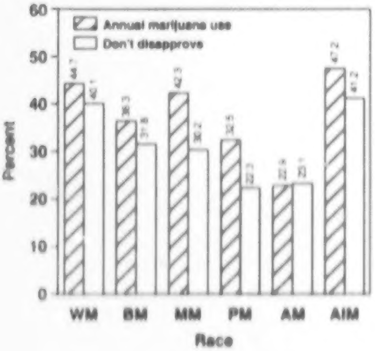
Heavy Drinking and "Don't Disapprove" of 5+ Drinks in a Row by Racial/Ethnic Group: Males



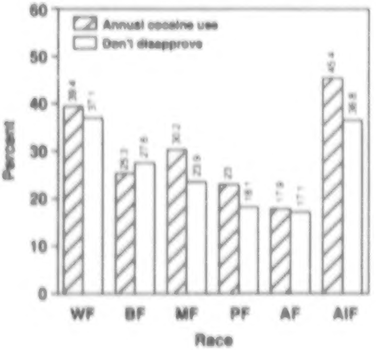
Heavy Drinking and "Don't Disapprove" of 5+ Drinks in a Row by Racial/Ethnic Group: Females



Annual Marijuana Use and "Don't Disapprove" of Occasional Marijuana Use by Racial/Ethnic Group: Males



Annual Marijuana Use and "Don't Disapprove" of Occasional Marijuana Use by Racial/Ethnic Group: Females



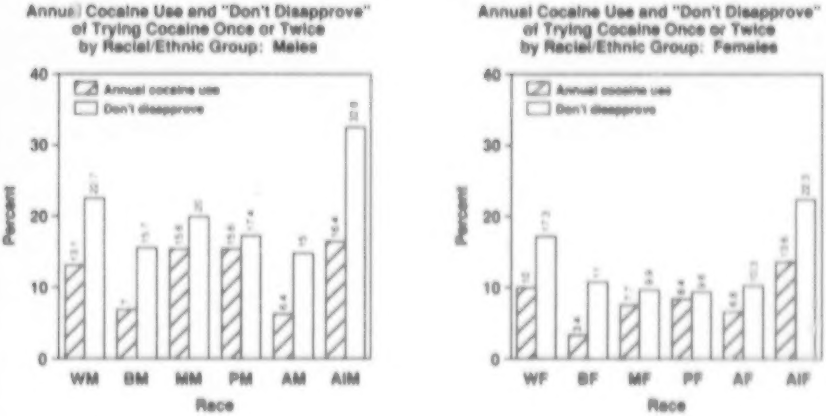


FIGURE 2. *Racial/ethnic differences in self-reported drug use and disapproval of selected drugs among high school seniors (1980-89)*

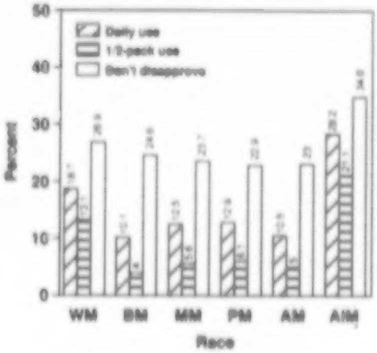
KEY: WM=white males; BM=African-American males; MM=Mexican-American males; PM=Puerto Rican/Latino males; AM=Asian-American males; AIM=American Indian males; WF=white females; BF=African-American females; MF=Mexican-American females; PF=Puerto Rican/Latino females; AF=Asian-American females; AIF=American Indian females

than males in each racial/ethnic group report that their friends would not disapprove of their alcohol use.

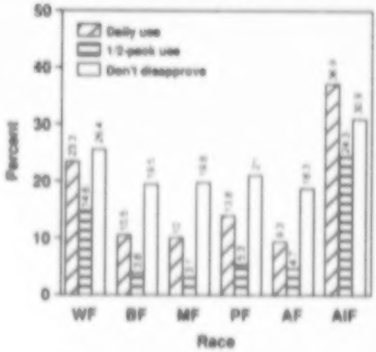
Friends' Use

Do those groups that report high levels of drug use also report high levels of drug use by their friends? Generally, the answer is yes. The data are presented in figure 4 and table 5. The data indicate that Asian-American seniors were most likely to say that none of their friends use marijuana and least likely to say that all of their friends use marijuana. Perhaps the most interesting finding for marijuana use is that the proportions of African-American seniors who indicate that most or all of their friends smoke marijuana do not substantially differ from the proportions for other groups who report higher levels of use. The proportions of African-American seniors who say that most or all of their friends smoke marijuana are similar to the proportions of Native American seniors who do so.

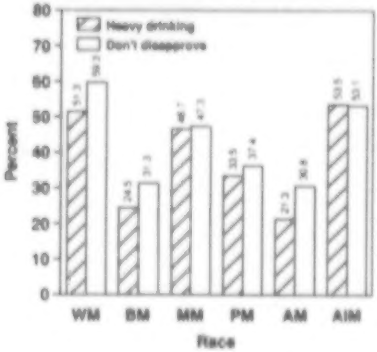
Daily and 1/2-Pack Cigarette Use and Friends "Don't Disapprove" of Daily Cigarette Use by Racial/Ethnic Group: Males



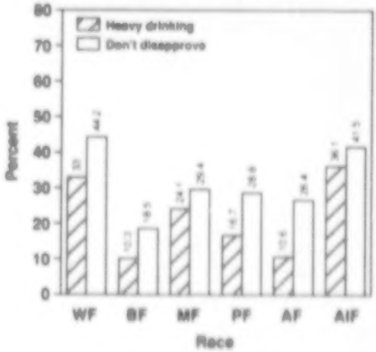
Daily and 1/2-Pack Cigarette Use and Friends "Don't Disapprove" of Daily Cigarette Use by Racial/Ethnic Group: Females



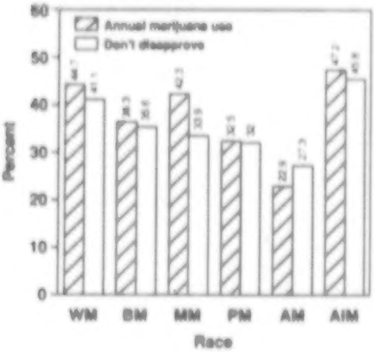
Heavy Drinking and Friends "Don't Disapprove" of 5+ Drinks in a Row by Racial/Ethnic Group: Males



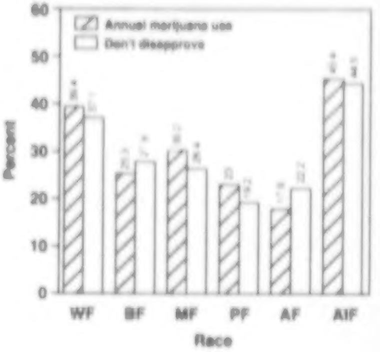
Heavy Drinking and Friends "Don't Disapprove" of 5+ Drinks in a Row by Racial/Ethnic Group: Females



Annual Marijuana Use and Friends "Don't Disapprove" of Occasional Marijuana Use by Racial/Ethnic Group: Males



Annual Marijuana Use and Friends "Don't Disapprove" of Occasional Marijuana Use by Racial/Ethnic Group: Females



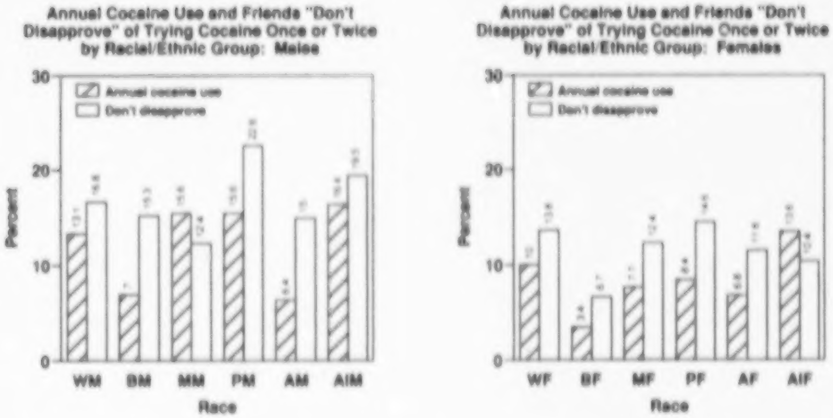


FIGURE 3. *Racial/ethnic differences in self-reported drug use and friends' disapproval of selected drugs among high school seniors (1980-89)*

KEY: WM=white males; BM=African-American males; MM=Mexican-American males; PM=Puerto Rican/Latino males; AM=Asian-American males; AIM=American Indian males; WF=white females; BF=African-American females; MF=Mexican-American females; PF=Puerto Rican/Latino females; AF=Asian-American females; AIF=American Indian females

The findings for cocaine use among friends are fairly consistent with the findings for self-reported cocaine use; Mexican-American and Puerto Rican/Latino males and American Indian females are least likely to report that none of their friends use cocaine and are most likely to report that most or all of their friends use cocaine. On the other hand, relatively high proportions of African-American and Asian-American seniors report that none of their friends use cocaine, and relatively low proportions of them report that all their friends use cocaine.

The percentages of seniors who indicate that none of their friends smoke cigarettes are also roughly in line with self-reported patterns of use; the percentages are highest among Asian-American and African-American seniors and lowest among white and American Indian seniors. Although low percentages of Asian-American seniors and high percentages of American Indian seniors report that most or all of their friends smoke cigarettes (consistent with self-reported use), the other groups are fairly similar in their responses to this question (in spite of some substantial differences in self-reported use).

TABLE 4. *Racial/ethnic differences in friends' disapproval of selected drugs among high school seniors (1980-89): percentages for males and females*

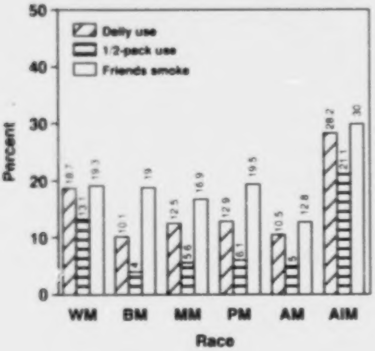
Seniors Who Think Their Close Friends Disapprove or Strongly Disapprove of Them Doing Each of the Following Things	White (M=10,346)* (F=11,163)	African-American (M=1,193) (F=1,610)	Mexican-American (M=335) (F=414)	Puerto Rican/ Latino (M=163) (F=165)	Asian-American (M=277) (F=270)	American Indian (M=179) (F=155)
Trying marijuana once or twice						
Male	50.7	60.9	58.4	62.8	67.4	48.8
Female	52.9	65.4	66.6	71.6	67.9	56.6
Smoking marijuana occasionally						
Male	58.9	64.4	66.1	68.0	72.7	54.2
Female	62.9	72.1	73.6	80.8	77.8	55.5
Smoking marijuana regularly						
Male	75.6	74.3	74.3	78.5	83.0	67.1
Female	83.4	84.1	83.6	90.6	89.0	72.3
Trying cocaine once or twice						
Male	83.2	84.7	87.6	77.4	85.0	80.5
Female	86.2	93.3	87.6	85.4	88.4	89.6
Taking cocaine regularly						
Male	88.4	87.5	89.9	85.6	90.0	86.5
Female	92.2	95.0	91.9	92.9	93.4	90.9
Smoking 1+ packs of cigarettes per day						
Male	73.1	75.4	76.3	77.1	77.0	65.2
Female	73.6	80.5	80.2	79.0	81.7	69.1

TABLE 4. *(continued)*

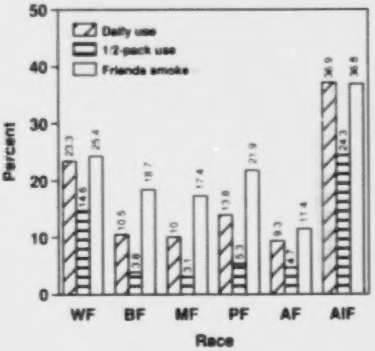
Taking 1 or 2 drinks nearly every day						
Male	63.9	72.6	64.0	71.0	76.7	64.2
Female	80.3	83.6	82.4	81.6	85.0	73.8
Taking 4 or 5 drinks nearly every day						
Male	81.4	81.3	80.3	81.7	86.5	77.2
Female	92.9	91.5	89.7	90.9	89.6	83.8
Having 5+ drinks once or twice in a weekend						
Male	40.7	68.7	52.7	62.6	69.2	46.9
Female	55.8	81.5	70.6	71.2	73.6	58.5

*N reported is minimum n across drugs except for cocaine, which was added to the questionnaire in 1986. Thus, the cocaine n's are approximately 40 percent to total.

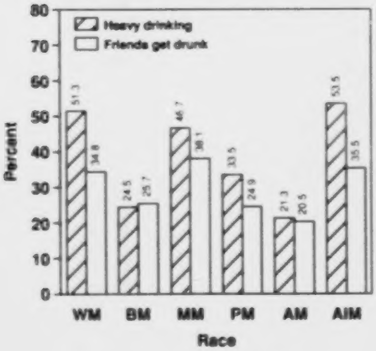
Daily and 1/2-Pack Cigarette Use and "Most or All Friends" Smoke Cigarettes by Racial/Ethnic Group: Males



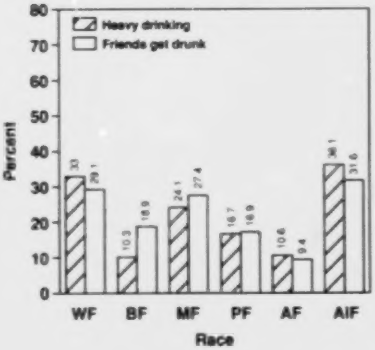
Daily and 1/2-Pack Cigarette Use and "Most or All Friends" Smoke Cigarettes by Racial/Ethnic Group: Females



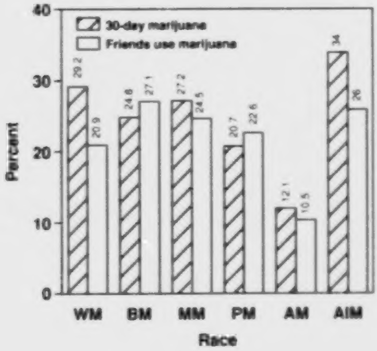
Heavy Drinking and "Most or All Friends" Get Drunk by Racial/Ethnic Group: Males



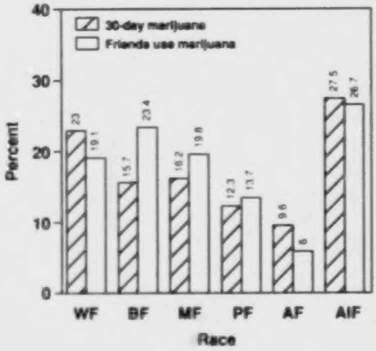
Heavy Drinking and "Most or All Friends" Get Drunk by Racial/Ethnic Group: Females



30-Day Marijuana Use and "Most or All Friends" Smoke Marijuana by Racial/Ethnic Group: Males



30-Day Marijuana Use and "Most or All Friends" Smoke Marijuana by Racial/Ethnic Group: Females



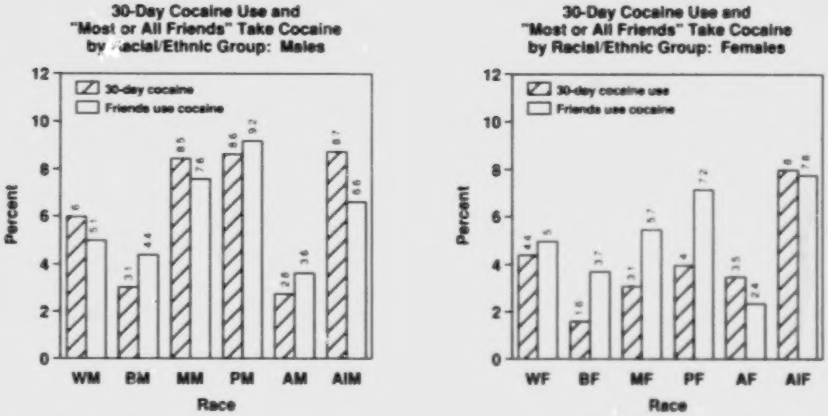


FIGURE 4. *Racial/ethnic differences in self-reported drug use and friends' use of selected drugs among high school seniors (1980-89)*

KEY: WM=white males; BM=African-American males; MM=Mexican-American males; PM=Puerto Rican/Latino males; AM=Asian-American males; AIM=American Indian males; WF=white females; BF=African-American females; MF=Mexican-American females; PF=Puerto Rican/Latino females; AF=Asian-American females; AIF=American Indian females

There are two alcohol measures concerning friends' use: One asks seniors for the proportion of their friends who drink, and the other asks them for the proportion of friends who get drunk. Racial/ethnic differences on both measures are similar. Considering their relatively high prevalences of alcohol use, the findings for American Indian seniors are somewhat surprising. Generally, relative to white seniors, American Indian seniors are more likely to say that none of their friends drink and less likely to say that all their friends drink. With regard to getting drunk (figure 4), the data indicate that those seniors who report the highest prevalences of heavy drinking—whites, Mexican-Americans, and American Indians—are also most likely to report that most or all of their friends get drunk.

Exposure

In light of the above findings on friends' use, one also would expect sizable racial/ethnic differences in exposure to environments in which various drugs are used. Figure 5 and table 6 present data that address this hypothesis. Consistent with patterns of self-reported use, American Indian seniors, followed by white seniors and Mexican-American males, report the greatest exposure to marijuana users.

TABLE 5. *Racial/ethnic differences in friends' use of selected drugs among high school seniors (1980-89): percentages for males and females*

How Many of Your Friends Would You Estimate...		White (M=11,226)* (F=11,760)	African-American (M=1,340) (F=1,807)	Mexican-American (M=429) (F=439)	Puerto Rican/ Latino (M=185) (F=213)	Asian-American (M=298) (F=274)	American Indian (M=200) (F=184)
Smoke marijuana							
% saying none	M	17.4	17.3	17.0	22.6	35.5	18.2
	F	21.3	22.0	27.9	26.0	48.1	19.6
% saying most or all	M	20.9	27.1	24.5	22.6	10.5	26.0
	F	19.1	23.4	19.8	13.7	6.0	26.7
Take cocaine							
% saying none	M	58.0	60.9	48.9	46.0	71.2	62.8
	F	59.5	67.6	57.6	57.5	74.7	50.1
% saying most or all	M	5.1	4.4	7.6	9.2	3.5	6.6
	F	5.0	3.7	5.7	7.2	2.4	7.8
Smoke cigarettes							
% saying none	M	11.6	17.1	14.3	10.9	19.1	12.8
	F	9.9	19.9	17.2	12.4	29.6	11.0
% saying most or all	M	19.3	19.0	16.9	19.5	12.8	30.0
	F	25.4	18.7	17.4	21.9	11.4	36.8
Drink alcohol							
% saying none	M	3.0	13.8	6.2	9.1	10.0	9.4
	F	2.7	11.7	8.8	9.3	20.6	5.7
% saying most or all	M	74.7	51.0	64.9	62.2	48.9	61.1
	F	71.7	41.4	56.4	47.7	32.0	63.7
Get drunk							
% saying none	M	11.8	26.0	12.8	21.8	30.8	18.1
	F	15.6	33.7	21.4	35.1	43.1	14.7
% saying most or all	M	34.8	25.7	38.1	24.9	20.5	35.5
	F	29.1	18.9	27.4	16.9	9.4	31.6

*N reported is minimum n across drugs.

The patterns of exposure to persons using cocaine fit fairly well with the self-reported data on use. Nevertheless, compared with their self-reported use, both Asian-American and African-American seniors report relatively high rates of exposure to people using cocaine.

The findings for alcohol use also approximate the self-reports. However, sizable proportions of American Indian seniors report that they have not been around someone using alcohol in the past 12 months. Consistent with their high rates of self-reported use, white seniors are least likely to say that they have not been around someone using alcohol. Racial/ethnic differences in reports of being around someone using alcohol closely parallel the racial/ethnic differences in heavy drinking (figure 5).

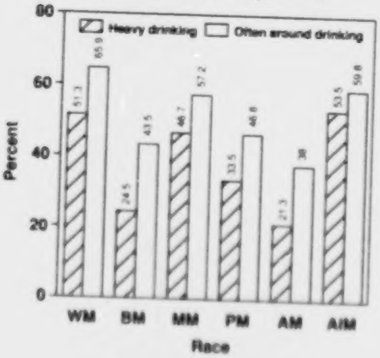
In summary, although there are exceptions, an examination of various drug-related attitudes and perceptions tends to confirm the patterns of racial/ethnic differences in self-reported drug use. In general, the attitudes examined here support the findings that drug use is highest among American Indian and white seniors, at intermediate levels among Mexican-American and Puerto Rican/Latino seniors, and lowest among African-American and Asian-American seniors.

Further evidence for the validity of these findings comes from earlier research in which the impact of family background factors on racial/ethnic differences in drug use was examined (see Bachman et al. 1990*b*; Wallace and Bachman 1991). It was found that being socioeconomically disadvantaged (e.g., single-parent family, parent(s) with low educational attainment, living in a large city) was related positively to cigarette and cocaine use. Accordingly, controlling for background factors had a significant impact on racial/ethnic differences in the use of these two drugs. More specifically, if African-American seniors were as likely as white seniors, for example, to live with both parents or to have highly educated parents, their drug use might be even lower than reported. Similarly, controlling for background helped to account for the high levels of cocaine use among Puerto Rican/Latino and Mexican-American males and the high levels of cigarette use by American Indian seniors.

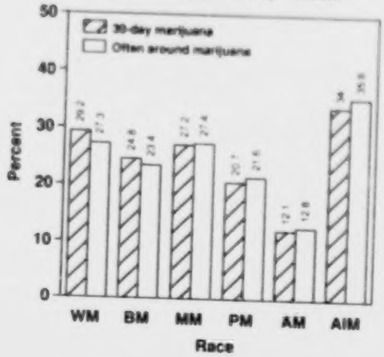
ISSUES IN ASSESSING THE USEFULNESS OF MONITORING THE FUTURE (AND OTHER STUDENT SURVEYS) FOR DETERMINING RACIAL/ETHNIC DIFFERENCES IN SELF-REPORTED DRUG USE

This chapter uses data from Monitoring the Future to examine racial/ethnic differences in the self-reported drug use among high school seniors. However, because the Monitoring the Future Project was not specifically designed to study racial/ethnic differences, several issues must be considered when interpreting the findings and assessing the overall usefulness of the data for understanding racial/ethnic differences in drug use. These issues include the

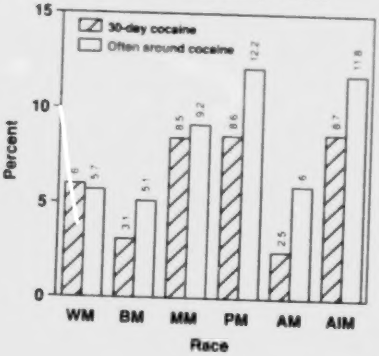
Heavy Drinking and "Often" Around People Drinking Alcohol by Racial/Ethnic Group: Males



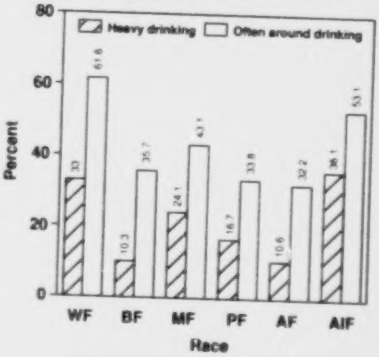
30-Day Marijuana Use and "Often" Around People Using Marijuana by Racial/Ethnic Group: Males



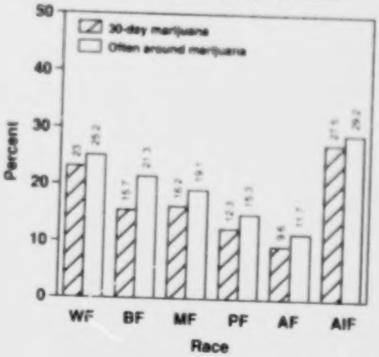
30-Day Cocaine Use and "Often" Around People Using Cocaine by Racial/Ethnic Group: Males



Heavy Drinking and "Often" Around People Drinking Alcohol by Racial/Ethnic Group: Females



30-Day Marijuana Use and "Often" Around People Using Marijuana by Racial/Ethnic Group: Females



30-Day Cocaine Use and "Often" Around People Using Cocaine by Racial/Ethnic Group: Females

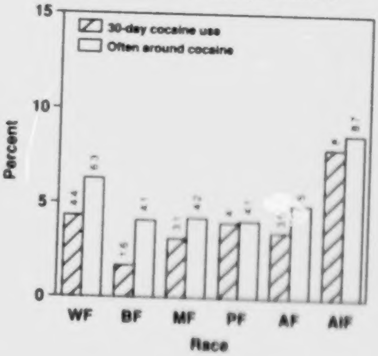


FIGURE 5. *Racial/ethnic differences in self-reported drug use and reported exposure to selected drugs among high school seniors (1980-89)*

KEY: WM=white males; BM=African-American males; MM=Mexican-American males; PM=Puerto Rican/Latino males; AM=Asian-American males; AIM=American Indian males; WF=white females; BF=African-American females; MF=Mexican-American females; PF=Puerto Rican/Latino females; AF=Asian-American females; AIF= American Indian females

representativeness of Monitoring the Future data and missing and/or inconsistent responses to questions regarding drug use.

DIFFERENTIAL REPRESENTATION[1]

Dropouts

Although the empirical findings presented above are not definitive, they lend considerable support to the conclusion that racial/ethnic differences in drug use reported here and in other studies are both reliable and valid. Nevertheless, the use of student surveys to draw conclusions about the general population of minority youth is still potentially problematic. Because high school dropout rates vary substantially among racial/ethnic groups, population coverage may differentially limit the extent to which findings from student surveys can be generalized for different groups. More specifically, if dropout rates within certain racial/ethnic minority groups are disproportionately high, the group differences in drug use found in the Monitoring the Future samples and other studies that use student samples might simply reflect that student samples include only "good" minority youth.

The Monitoring the Future target population comprises "traditional" high school seniors—those who are still attending day school in April of their senior year. The samples do not include dropouts, absentees, students who refuse to participate in the survey, and those who are working toward a diploma outside a high school setting (e.g., general equivalency diploma programs). If these factors affect the same proportion of the class/age cohort for each racial/ethnic subgroup, then the Monitoring the Future sample represents similar segments of each subgroup. However, to the extent that these factors affect differing proportions of each subgroup, differential representation exists. Thus, for example, to the extent that high school dropout rates are higher for a minority group, smaller segments of that minority population would be represented in these samples of seniors, and comparisons of levels of drug use between races could lead to artifactual conclusions if they were generalized to the whole age band rather than just to seniors.

TABLE 6. *Racial/ethnic differences in self-reported exposure to selected drugs among high school seniors (1980-89): percentages for males and females*

During the Last 12 Months, How Often Have You Been Around People Who Were Taking Each of the Following?		White (M=11,963)* (F=12,457)	African-American (M=1,720) (F=2,113)	Mexican-American (M=488) (F=474)	Puerto Rican/ Latino (M=283) (F=259)	Asian-American (M=350) (F=306)	American Indian (M=225) (F=212)
Marijuana							
% saying not at all	M	22.4	23.3	28.9	40.0	27.2	24.6
	F	26.8	31.3	39.0	39.3	53.0	28.4
% saying often	M	27.3	23.4	27.4	21.6	12.8	35.8
	F	25.2	21.3	19.1	15.3	11.7	29.2
Cocaine							
% saying not at all	M	64.2	68.0	56.8	51.5	75.0	59.1
	F	65.0	72.4	68.8	68.7	74.3	61.2
% saying often	M	5.7	5.1	9.2	12.2	6.0	11.8
	F	6.3	4.1	4.2	4.1	5.0	8.7
Alcohol							
% saying not at all	M	4.2	11.4	6.8	9.3	14.8	11.0
	F	4.9	10.7	10.3	12.2	17.9	9.8
% saying often	M	65.9	43.5	57.2	46.8	38.0	59.8
	F	61.6	35.7	43.1	33.8	32.2	53.1

*N reported is minimum n across drugs.

Census data characterizing American young people in the approximate age range of those in this sample indicate that, compared with whites, somewhat lower proportions of African-Americans and much lower proportions of Hispanics remain in school through the end of the 12th grade. Data from the High School and Beyond longitudinal study of the 1980 sophomore cohort (i.e., senior class of 1982) yielded dropout rate estimates of 15 percent for white students, 22 percent for African-American students, 28 percent for Hispanic students, 8 percent for Asian-American students, and 35 percent for American Indian students (National Center for Educational Statistics 1989, p. 26).[2] Based on this information and more recent census data, it can be concluded that smaller segments of the African-American, Hispanic, and American Indian populations relative to white populations are represented by these samples of high school seniors (see Bachman et al. 1990*b*).

It is known that the level of drug use is generally higher among dropouts (Bachman et al. 1978; Johnston 1973; Mensch and Kandel 1988) and that minority youth are, in general, more likely than white youth to drop out. Given this information, to what extent is it possible that the racial/ethnic differences in drug use reported above are the result primarily of racial/ethnic differences in dropout rates? In other words, how different would the findings be if they were based on the total cohort of 17- to 18-year-olds rather than just high school seniors? In general, including dropouts would tend to raise the observed prevalence rates for all drugs and all subgroups; however, the impact presumably would be greatest in subgroups with the highest dropout rates. In terms of drug use, one would expect that subgroups whose rates of both dropping out and using drugs exceed those of white seniors (i.e., American Indians) would also report even higher levels of drug use; for those groups whose dropout rates exceed those of white seniors and whose drug use was less than white seniors (i.e., African-American and Hispanic seniors), it would be expected that including the entire age cohort in the sample would probably yield somewhat smaller minority/white differences in drug use than those found in samples of seniors. Among those youth who report lower than average dropout rates and lower than average drug use (i.e., Asian-Americans), it would be expected that the disparity between their drug use and that of white youth might be even larger than reported. Also, recent household surveys, which do not omit dropouts, find African-American/white and Hispanic/white differences in youth drug use that are roughly comparable to those reported here (National Institute on Drug Abuse 1990).

Beyond the issue of dropouts, the Monitoring the Future samples appear to underrepresent those African-American males who, according to census figures, *are* in high school at the 12th grade. This lack of correspondence with census figures could be due to several reasons, including the following: (1) The *operational definition* of high school seniors used in these samples differs from the census definition of individuals in the fourth year of high school;

(2) other *cases are lost* due to routine absenteeism, deliberately avoiding the class session scheduled for the survey, attending but refusing to participate, or failing to respond to the racial identification item in the questionnaire; and (3) *missing data* and/or internally inconsistent responses on other key items (i.e., self-reports of drug use) can further reduce obtained samples for drug use comparisons. Bachman and colleagues (1990*b*) carried out several detailed analyses to examine each of these possibilities. The findings are briefly discussed below.

Differences in Operational Definitions

The Census figures are based on persons described as being enrolled in school; the closest comparison groups available are those enrollees considered to be in the fourth year of high school as of October 1 (the Census Current Population Survey is conducted shortly after that date). The Monitoring the Future Project administers questionnaires to seniors in "regular" daytime high school programs (not night school or special classes preparing for high school equivalency exams, etc.) in the spring (mostly March and April). Thus, there are two important differences: (1) The census definition is likely to be more inclusive of students *not* in regular high school programs, and (2) each year some of those who are 12th graders at the start of October drop out of school before March. One can conclude that a major reason why these samples show racial compositions different from those in census reports on 12th graders is that the two data sources define somewhat different populations and survey them at distinctly different points during the senior year. Nevertheless, the census data are still useful for making some approximate checks on the samples described in this chapter.

Lost Cases Due to Other Reasons

In addition to underrepresentation in the sample, several factors may lead to loss of cases for purposes of minority group analyses, including absenteeism, deliberately avoiding the class session scheduled for the survey, attending but refusing to participate, or failing to respond to the racial identification item (or the sex identification item) in the questionnaire. Extensive analyses have been done on several of these issues (see Bachman et al. 1990*b*). The findings are summarized below.

First, the overall rates of absenteeism are not very different among the various racial/ethnic groups. Second, because upweighting for *routine* absenteeism is sufficient to account for most of the differences between the obtained classroom samples and the class enrollment data supplied by teachers, the proportions of students who deliberately avoid the class session in which the questionnaire is scheduled to be administered probably is quite small. Third, refusals to participate in the survey are rare—only about 1 percent, based on estimates by the Survey Research Center staff members who administer the questionnaires in the schools. There is no direct evidence that refusals are disproportionately high among minority seniors.

Another way in which minority youth might be underrepresented in the sample is if they disproportionately fail to provide the data necessary to classify them into one of the subgroups. Two to three percent of survey respondents do not answer any of the demographic questions. Of the 97 to 98 percent who do answer the demographic questions, about 1 percent decline to identify themselves as male or female. A slightly smaller number fail to answer the racial/ethnic identification item; however, 2 to 3 percent of those answering choose the "other" response. There is no way to determine whether minority youth, particularly African-American males, are disproportionately opposed to providing this sort of self-identification. However, if they are, this could contribute to their underrepresentation in the sample.

Missing Data/Inconsistent Responses

Among all individuals who participate in the survey and provide the demographic data necessary for classification into subgroups, a small proportion fail to answer some or all of the drug use items. Earlier analyses of Monitoring the Future data (based on the senior classes of 1984 through 1987) revealed racial/ethnic differences in rates of missing data and inconsistent responses.

Missing data and inconsistent responses are typically highest among African-American and American Indian seniors (Bachman et al. 1990*b*). However, these differences do not parallel racial/ethnic differences in self-reported drug use. For example, American Indian seniors have relatively high rates of missing data and/or inconsistent responses (6.6 percent for marijuana) as well as high self-reported drug use, whereas African-American seniors have equally high rates of missing data and/or inconsistent responses (6.8 percent for marijuana) but much lower rates of self-reported drug use. White and Asian-American seniors are fairly similar in having low rates of missing data and/or inconsistent responses (2.3 and 3.1 percent, respectively, for marijuana), but their rates of drug use are distinctly different.

As noted earlier, African-American seniors, particularly males, are more likely than white seniors to be age 18 or older at the beginning of their senior year. The missing data rates for 18-year-olds in the Monitoring the Future sample are roughly double those for 16- and 17-year-olds. It is likely that many of the 18-year-olds have been held back a grade in school, and their distinctly higher rates of missing data suggest the possibility that a few with reading difficulties may have had trouble with the whole questionnaire, including the self-report drug use items, and thus answered inconsistently or not at all. It is also likely that at least some individuals simply refused to answer the drug use items because they did not want to reveal that information, perhaps prompted by this comment in the questionnaire immediately preceding the marijuana items: "We hope that you can answer all questions; but if you find one which you feel you cannot answer honestly, we would prefer that you leave it blank." Presumably that instruction would cover all instances of unwillingness to respond.

Furthermore, it might prompt an occasional nonresponse by an otherwise willing respondent who was unsure about numbers of uses and, equating honesty with accuracy, decided it was better to leave the item blank. Whatever the mix of causes, missing or inconsistent data on the drug use items slightly reduce the samples; because the losses differ across subgroups, they contribute to differential underrepresentation.

CONCLUSION

Although we remain cautious about reporting and interpreting racial differences in survey responses, especially when such differences are relatively small, the authors believe that the generally large racial/ethnic subgroup differences in self-reported drug use reported herein are, on the whole, valid and thus cannot be dismissed as due to differences in willingness to report honestly.

NOTES

1. This section is adapted from Bachman and colleagues (1990*b*).

2. Overall dropout rates for this cohort were actually higher than the High School and Beyond estimates due to several factors; in particular, the initial survey omitted most students who dropped out before the end of the 10th grade.

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Interviewing Minority Youth About Drug Use: Telephone vs. In-Person Surveys

Leonard LoSciuto, William S. Aquilino, and Frederick C. Licari

INTRODUCTION

The drug use survey among representative samples of households is a well-established, if by no means error-free, method for estimating incidence and prevalence of drug use for regions and for the United States as a whole.

Traditionally, these surveys are face-to-face interview studies in which trained interviewers approach households selected by probability sampling techniques, screen the household for eligible respondents, and conduct interviews with randomly selected eligibles. Very often the interviews contain critical portions that are self-administered in order to augment perceptions of anonymity and confidentiality. For these portions, the interviewer's role is to hand the respondent a self-administered questionnaire (SAQ), give instructions on how to fill it out, and remain available for help, if needed.

Although this procedure has worked reasonably well over the years, there are two essential problems that have encouraged the search for other survey methods.[1] First, the information from SAQs is not always very reliable, especially when the literacy level in the sample is low. Improperly skipped questions and logical inconsistencies are more prevalent than in studies where all questions are interviewer administered. Second, the price of the interviews is relatively high because the SAQ is only part of a face-to-face interview situation with all the costs therein.

These considerations have encouraged exploration of other survey methods, and the search has intensified in recent years. Mail surveys are routinely rejected because of typically low response rates, and mass-administered questionnaires are subject to large clustering effects (i.e., sampling errors) and/or biases.

However, telephone interviewing has increased in popularity largely because of cost savings, efficiency, and increasing availability of computer-assisted methods to speed data collection and processing. Compared with face-to-face interviews, telephone surveys are cheaper, have shorter field periods, and lend themselves to closer monitoring of field operations and interviewer performance, thus enhancing quality control during data collection. In addition, random digit dialing (RDD) ensures that unlisted telephone households are fully represented in the sample, although nontelephone households are, of course, still excluded.

Aquilino and LoSciuto (1990) reported the results of telephone vs. face-to-face interviewing in independent household probability samples of New Jersey. The results showed clear interview mode differences for the adult population. There were some pronounced advantages for the face-to-face interview compared with telephone interviewing, both in the representativeness of the sample responding and in the amount of drug use that the sample reported.

The purpose of this chapter is to recast and reexamine the data from the New Jersey samples, focusing on interview mode differences among minority youth. Specifically and operationally, the major research question becomes: Does mode of interview differentially affect responses of 18- to 25-year-old African-Americans and Hispanics compared with older African-Americans and Hispanics and compared with same-age and older white respondents?

For the groups described above, the authors attempt to answer three questions:

1. What differences in sample demographic characteristics are produced by a switch from multistage area probability sampling to RDD methods (the Waksberg procedure [Waksberg 1978])?

2. What differences in screening and interview response rates occur for face-to-face vs. telephone interviewing?

3. What differences in drug use self-reports result from face-to-face vs. telephone interviewing?

LITERATURE REVIEW

The following literature review addresses each of the questions above.

In reviewing the literature, the authors found nothing specifically about interview mode differences among minority youth on levels of substance abuse. Indeed, the literature has little to say about mode effects on interview self-reports of any sort. The few studies that deal with the topics do not specify results by age or ethnicity, nor are they from large representative samples.

Somewhat more numerous are studies that concern mode differences on response rates and sample characteristics, including age and ethnicity.

Differences in Response Rates

Response rates can be expected to vary between telephone and face-to-face interview modes. The extent of differences depends to some degree on the formula for response rate computation. Dillman (1978), for example, reported an average response rate of more than 90 percent for telephone surveys conducted in Washington State. These rates excluded the chronically unanswered telephone numbers from the denominator, thus substantially overestimating telephone response rates. By including all unanswered telephone numbers in the denominator of the response rate equation, Groves and Kahn (1979) obtained an overall RDD response rate of 59 percent in their national survey, compared with 75 percent in the personal interview. Exclusion of the unanswered numbers raised the telephone rate to 70 percent. The decision to include or exclude sampled numbers with a final designation of "rings, no answer" affects the reported response rates substantially.

Telephone surveys tend to have higher breakoff rates (Groves and Kahn 1979) and higher refusal rates (Jordan et al. 1980) than personal surveys. Screening refusals may be highly affected by the need to collect household composition data to determine eligibility and respondent selection. Because screening is conducted early in the call, before interviewer rapport can be developed, the more screening information needed, the higher the refusal rate is likely to be (Hauck and Cox 1974).

Of most relevance to the present chapter is that nonresponse has been found in a few studies to vary by race and ethnicity. African-Americans tend to be disproportionately inaccessible in telephone surveys (Weaver et al. 1975). Furthermore, there is some evidence that this is especially true for younger, lower income, and male African-American respondents. Freeman and colleagues (1982) reported that telephone nonresponse occurred disproportionately among minorities, the less affluent, the less educated, and older respondents.

O'Neil (1979) found that the effects of refusals and noncontacted households on telephone nonresponse bias are in opposite directions. Refusers tend to be older, less educated, and less affluent than cooperative respondents. Eligible respondents who tend to fall in the noncontacted, or "rings, no answer," category tend to be younger and more highly educated and have higher incomes. The relative proportion of refusals and noncontacted households, to some extent, determines the magnitude and direction of RDD nonresponse bias. In general, the survey literature suggests that both the screening and interview response rates are lower in the telephone than in the face-to-face survey.

Differences in Sample Characteristics

Survey literature is clear in suggesting that RDD sampling produces a different demographic profile of respondents than does multistage area probability sampling. The sampling frame for RDD excludes households without telephones, which account for 5 to 10 percent of households in the United States (Groves and Kahn 1979; Klecka and Tuchfarber 1978). The demographic correlates of nontelephone status make this a potentially serious bias for drug use surveys. Respondents from nontelephone households are more likely than those with telephones to be nonwhite, of lower income and education, and never married, divorced, or separated (Tull and Albaum 1977). Freeman and colleagues (1982) reported that RDD's exclusion of nontelephone households underrepresented low-income, rural, nonfarm areas; nonwhites; single heads of households; persons younger than 35; divorcees; and renters. Groves and Kahn (1979) found that income was the strongest correlate of nontelephone status in their sample; a full 20 percent of families with incomes below $4,000 in 1974 were without telephone services. Klecka and Tuchfarber (1978) compared RDD and face-to-face samples in a Cincinnati survey of crime victimization. The RDD sample captured fewer poor households and had a significantly higher education level than the personal survey. This literature suggests that, compared with the area probability sample in the personal survey, the RDD sample has significantly higher income and educational attainment and proportionately fewer nonwhite, divorced, and separated respondents.

Differences in Drug Use Estimates

Drug use surveys are subject to response set bias, most notably socially desirable responding in the face of threatening survey items. Use of illicit drugs, such as marijuana and cocaine, and heavy vs. social drinking are assumed to be socially undesirable behaviors for the majority of respondents. Thus, to the extent that social desirability affects responses and respondents feel threatened by such interview questions, one would expect underreporting of drug use to be the largest threat to the validity of drug use surveys. The more socially unacceptable the substance, the greater the underreporting should be (Mensch and Kandel 1988). A central question of the authors' research effort was: Will a switch from face-to-face to telephone survey modes affect the validity of population estimates of drug use (i.e., result in lower estimates of drug use)? A recent study by Mensch and Kandel (1988) demonstrated the susceptibility of drug use reports to socially desirable responding. Underreporting of lifetime marijuana use in the National Longitudinal Survey of Youth (NLSY) was related to familiarity with the interviewer (who may have conducted up to three interviews with the same respondent). Panel members reinterviewed by the same person were more likely than those with different interviewers to deny marijuana and cocaine use on subsequent interviews, even after admitting use at the initial interview.

Familiarity with the interviewer increased respondents' propensity toward socially desirable responding.

There has been relatively little research on willingness to report highly threatening or undesirable behaviors in telephone vs. face-to-face interviews. Several researchers have expressed skepticism about the ability of telephone surveys to secure honest reporting of sensitive or illicit behavior (Johnston and O'Malley 1985; Sudman 1976; Freeman et al. 1982). Groves (1979) found that respondents expressed greater uneasiness about discussing sensitive topics on the telephone than in face-to-face interviewing. Telephone interviewing may elicit higher refusal rates for sensitive questions than in-person interviewing (Groves and Kahn 1979).

In all data collection modes, response effects are thought to be larger for threatening than for nonthreatening items (Sudman and Bradburn 1974); sexual behavior, drinking and drug use, crime, money, and serious illness are likely to be experienced as threatening topics. Sudman and Bradburn (1974) maintained that the higher the threat, the more influential the interview milieu on respondents. There is reason to suspect, then, that the more threatening the topic, the more the mode of interview affects the tendency of respondents toward socially desirable responding.

Unfortunately, one of the best methods for reducing response set effects due to social desirability, the use of SAQs in the context of a personal interview (Sudman and Bradburn 1974), has been ignored in studies comparing interview modes. With SAQs, interviewers read instructions, and possibly the questions, but do not see respondents' answers. The National Household Survey on Drug Abuse (NHSDA) and the in-person New Jersey drug survey reported here used self-administered answer sheets to maximize respondents' privacy in reporting drug use in the personal interview. Mode differences for sensitive questions would seem to be more likely when face-to-face surveys incorporating SAQs are compared with standard telephone surveys.

Studies comparing personal and telephone surveys for response set bias have produced mixed results (Orwin and Boruch 1982). The validity of telephone results has been demonstrated mostly with relatively nonthreatening topics. Hochstim (1967) reported that the proportion of women who admitted ever having an alcoholic drink was higher by telephone than in person. Physicians' self-reported rates of reading medical journals (considered socially desirable) was higher in personal than in telephone interviews (Colombotos 1969). Rogers (1976) found telephone respondents less likely than face-to-face respondents to overreport voting. Wiseman (1972) reported that Catholics' attitudes toward abortion and birth control evidenced more socially desirable responding in both telephone and personal interviews than by mail. Siemiatycki

(1979) and Herzog and colleagues (1983) reported no interview mode differences to socially desirable responding in health-related surveys. Although many of these studies support the validity of telephone interviewing, their results, based on relatively less threatening topics such as reading professional journals or general health issues, may not be generalizable to highly threatening surveys concerned with illicit or embarrassing behaviors.

Two comparisons involving more threatening surveys showed telephone mode more susceptible than the personal mode to social desirability. Respondents (who were randomly assigned to interview mode) were more likely to report psychiatric symptoms and depression in face-to-face interviews than by telephone (Henson et al. 1978); face-to-face respondents also had significantly lower social desirability scores on the Crowne-Marlows scales than telephone respondents. Herman (1977), in a mixed-mode survey of employees' voting for unionization, found telephone respondents less willing than those personally interviewed to reveal sensitive information such as unlawful campaign practices and how they intended to vote.

To summarize, the literature shows nothing about interview mode difference on minority youth. Furthermore, direct comparisons of survey modes, even among the general interview population, have provided only equivocal evidence concerning the ability of telephone vs. personal surveys to elicit accurate reports of socially undesirable behavior. However, most comparisons of interview modes have relied on items of relatively mild threat compared with drug use surveys. The survey literature suggests that characteristics of the interview situation become increasingly important in affecting responses as survey items become more threatening. To the extent that questions concerning heavy drinking, marijuana use, and cocaine use are highly threatening, telephone interviews can be expected to be more susceptible to social desirability bias than face-to-face interviews that rely on self-administered answer sheets for the most threatening questions. Furthermore, minority youth should be particularly subject to such biasing effects. Thus, telephone surveys might be expected to yield lower estimates of drug use than the in-person surveys, and the degree of underreporting should vary with the sensitivity of the question. Telephone estimates of heavy drinking, recent marijuana use, and recent cocaine use should be more susceptible to underreporting than estimates of social drinking or tobacco use.

STUDY DESIGN

The objective of State and national drug surveys is to estimate the incidence, prevalence, and correlates of the use and abuse of alcohol and other drugs in a representative sample of the household population. The NHSDA, for example, is conducted biannually to monitor national trends in drug use. Recently, several State governments have undertaken surveys to chart statewide drug use trends and to use as a resource for allocating drug abuse prevention funds. One such survey, conducted in 1986-87 for the State of New Jersey, provided the face-to-face interview data for this study.

Design of the Face-to-Face Survey

Questionnaire Design. The New Jersey face-to-face survey used the identical survey instruments developed for the 1985 NHSDA and replicated the data collection procedures of the NHSDA exactly. Drug categories included tobacco, alcohol, marijuana, cocaine (crack was added to the State survey), opiates, hallucinogens, and the nonmedical use of prescription drugs. Additional questions included health and behavioral consequences of drug use and demographic characteristics of the respondent. The personal interview lasted 45 to 60 minutes, on the average.

Anonymity. For all but tobacco, answers to drug use questions were recorded by the respondent on a self-administered answer sheet; interviewers read the instructions at the start of each drug sequence and, at the respondent's request, read the questions aloud while the respondent completed the answer sheet. Answer sheets were sealed in an envelope in the respondent's presence on completion of the interview. No names were recorded on the questionnaires or answer sheets.

Field Procedures. Advance letters were sent to selected households in the sample. The letter explained the purpose of the survey, confidentiality procedures, and the voluntary nature of participation. All screening and interviewing were done in person. When definite refusals were obtained, at least one refusal conversion attempt was made, with reassignment to another interviewer where possible. The field period extended from June 1986 through January 1987.

Sampling. A multistage area probability sample of New Jersey's civilian, noninstitutionalized household population ages 18 to 34 years was developed. In the first stage of selection, primary sampling units (PSUs) consisted of block groups and enumeration districts. PSUs were sorted first by county for implicit stratification by geography and urbanicity, then within county for racial/ethnic stratification. Five strata were delineated according to 1980 census counts: (1) heavy Hispanic areas (40 percent or more), (2) light Hispanic areas (15 to 39 percent), (3) heavy African-American areas (40 percent or more), (4) light African-American areas (10 to 39 percent), and (5) predominantly white areas. PSUs were drawn systematically with probabilities proportional to size using an interval equal to the ratio of the State's total population in 1980.

In the second stage, listing areas (LAs) were formed by consulting 1980 block-level census counts and maps and joining adjacent blocks (where necessary) to form minimum size units of 150. Individual LAs were then drawn within each selected PSU with probabilities again proportional to 1980 census counts. The third stage of selection involved enumeration of residential dwelling units within LAs. Within each LA, about 55 to 60 household addresses were subsampled independently, yielding a total sample of 4,571 residential addresses.

Design of the Telephone Survey

The overriding concern in designing the telephone survey was comparability to the in-person survey. Thus, it was paramount that the telephone survey attempt to (1) achieve high screening and interview response rates, (2) minimize item nonresponse, (3) preserve question content and meaning, and (4) guarantee confidentiality to respondents.

To maximize response rates, the authors decided to conduct a telephone survey averaging no more than 25 minutes. It was clear that only a subset of the in-person interview sequences could be used, because administering the entire NHSDA questionnaire over the telephone would have required well over an hour. The authors decided to ask the complete sequence of items about a smaller number of drugs: tobacco, alcohol, marijuana, and cocaine (including crack). These drugs were selected because they are relatively prevalent in the population, they have potential for abuse, they represent both legal and illegal substances, and they form a continuum from relatively nonthreatening (smoking, social drinking) to threatening (heavy drinking, marijuana use, cocaine use) questions.

Questionnaire Development and Pretesting. This phase of the research involved reformatting, where necessary, the drug use and demographic items for telephone administration. A first difficulty concerned the precoded response categories from the in-person interview. Items asking frequency of drug use presented respondents with up to eight response categories, far too many for a single item on the telephone. These items were broken into a series of subitems that recreated the original precoded scale. In doing this, the wording of the stem question and all original response categories were preserved in the telephone instrument.

Branching Sequences. In the face-to-face survey, respondents answered all questions within a drug sequence, regardless of whether they had ever used the drug or how recently they used it. Thus, respondents were asked how often they had used marijuana in the last 30 days, even if previously they indicated no use of marijuana in their life. This was done to prevent respondents from denying drug use merely to shorten interview time. This structure was impossible to administer over the telephone. Pretests clearly indicated that redundancy in item sequences was unacceptable to respondents and generated high degrees of irritation (and interview breakoffs). For the telephone interview to succeed, then, it was essential that branching patterns be introduced in the telephone drug sequences.

Sampling. The Waksberg procedure (Waksberg 1978) of RDD was employed for telephone sampling to maximize the proportion of residential households contacted during screening, thus reducing survey costs and field period length. The goal was the completion of at least 2,000 interviews with respondents 18 to 65 years old. However, this chapter emphasizes the results for only the 18- to 25-year-old portion of the sample, with particular attention paid to ethnic comparisons within that age group.

Sampling proceeded in five stages: (1) The telephone company's database was used to identify all working exchanges in all area codes in New Jersey. (2) A random four-digit number was then attached to the 1,052 working exchanges, so that one complete telephone number was randomly selected from each of the exchanges. Following the Waksberg procedure, all numbers were called to determine whether they were residential, nonresidential, or nonworking numbers. Up to 10 calls were made to reach a final designation for each selected number. (3) A PSU was added to the sample for each residential number identified; the area code and first five digits of the number formed the basis of one PSU (e.g., 201-334-56**). The 1,052 working exchanges furnished 411 PSUs. (4) A bank of 100 numbers was generated for each PSU by assigning the final two digits to the selected number (00 to 99), then randomly ordering the numbers within each bank. (5) At screening, numbers were called in the order generated until 10 residential numbers were identified. A final disposition on each number was obtained before selecting a new number; hence, numbers were not substituted. After the 10th residence in a bank was identified, no other numbers in that bank were called. Approximately 55 percent of all numbers called during screening were residential numbers.

Screening. All residential households with at least one member age 18 to 65 were eligible for the telephone sample. Interviewers secured a listing of respondents and chose one randomly by selection tables. Informants were told the interview was on health-related issues; selected respondents were told it concerned tobacco, alcohol, and other drug use.

RESULTS

Response Rates

The RDD procedures resulted in a sample of 6,932 telephone numbers, and the screening completion rate among them was calculated at 71.5 percent. Of the 18- to 25-year-olds selected during the screening process for interviewing, 82.1 percent yielded usable interviews. The total completion rate therefore was 71.5 percent x 82.1 percent, or 58.7 percent.

The face-to-face sample consisted of 4,571 residential addresses. A screening rate of 90.5 percent was achieved. Of the 18- to 25-year-olds selected for interviewing during the screening process, 79.5 percent yielded interviews.

Thus, the total in-person completion rate for the 18- to 25-year-olds was 90.5 percent x 79.5 percent, or 71.9 percent. It should be noted, then, that the overall response rate difference (58.7 percent for telephone vs. 71.9 percent for in-person) is substantial and is entirely due to the superiority in this instance of in-person screening. The interview response rate difference is neither practically nor statistically significant.

This pattern is much the same as reported in Aquilino and LoSciuto (1990) for the older respondents in the sample. Screening rates for households with 18- to 25-year-old respondents are about the same as for households without them. Also, interview completion rates among the 18- to 25-year-olds are just as high as for older respondents. After eligible minority youth were identified in the screening process, it was possible to interview about 80 percent of them, whether the telephone or in-person approach was used.

Interview Mode and Demographics

Previous studies have shown some differences in the characteristics of the samples developed through RDD and in-person surveys. One source of these differences is RDD's exclusion of nontelephone households. In table 1, the characteristics of nontelephone households are illustrated for the present study data.

Age and sex do not seem to be factors in telephone ownership among those under 35. However, it is clear that African-Americans and Hispanics are much less likely than whites to have telephones. Also, education, work status, and income—all indicators of socioeconomic status (SES)—are strongly and positively related to telephone ownership.

To estimate the impact of RDD's exclusion of nontelephone households, the demographic profiles were calculated before and after dropping the nontelephone households from the face-to-face sample (both the personal and telephone interviews asked for the number of telephone lines in the household). A major finding is that dropping the nontelephone households reduced somewhat but did not eliminate the upward SES bias associated with RDD sampling. Although more than 13 percent of African-American

TABLE 1. *Characteristics of nontelephone households (in-person sample) (percentage distributions)*

Characteristics	Percent of Nontelephone Households	Chi-Square[a]
Race/ethnicity		69.97*
African-American	13	
White	2	
Hispanic	17	
Age		2.09 ns
18 to 21	5	
22 to 25	5	
26 to 29	6	
30 to 34	4	
Sex		2.52 ns
Male	4	
Female	6	
Education		62.41*
Less than high school	20	
High school graduate	4	
Some college	3	
College graduate	2	
Work situation		21.18*
Employed full time	4	
Employed part time	2	
Unemployed	16	
Other (not in labor force)	7	
Student status		3.69 ns
Full-time student	4	
Part-time student	1	
Nonstudent	6	
Income		15.93**
Under $7,000	8	
$7,000 to $14,999	6	
$15,000 to $29,999	2	
$30,000 or more	2	

[a] Contingency table chi-square test of statistical independence (presence of telephone x demographic characteristic)

*p<.001; **p<.01; ns=not significant

respondents were dropped from the in-person sample, the demographic distributions were very similar to the full sample comparison. For Hispanics, 17 percent of the cases were dropped; but again, the SES bias was not greatly affected. For whites, so few households (1.7 percent) were without telephone service that dropping them left the demographic profiles unaltered.

In summary, then, the exclusion of nontelephone households appears to exacerbate, but not cause, the upward SES bias for African-Americans and Hispanics in the RDD sample.

Table 2 shows the characteristics of the telephone and in-person samples of youth, excluding nontelephone households, and shows substantial differences by interview mode for African-American youth and somewhat smaller differences for whites. The sample sizes for Hispanics are very small and can be regarded only as suggestive.

The profiles for young African-Americans are significantly different, depending on interview mode, for marital status, work situation, and income. A significantly greater proportion of young African-Americans who responded to the telephone survey were married (18 percent) compared with those responding to the personal survey (6 percent). Similarly, significantly more telephone responders were employed full time (64 percent) than were in-person responders (43 percent). Also, fewer of the young African-American telephone respondents had incomes under $7,000 (27 percent) compared with in-person respondents (60 percent).

The telephone survey was also more likely than the in-person survey to result in interviews with full-time students and generally more educated respondents, although these findings were not statistically significant.

Also important, although not a statistically significant finding for minority youth, is the gender distribution differences by interview mode. The in-person survey resulted in more young male interviews for all three ethnic groups. For example, only 26 percent of the telephone interviews of young African-Americans were with males, compared with 37 percent in the in-person survey. The corresponding figures for Hispanics are 41 percent (telephone) and 50 percent (in-person).

To the extent that young females tend more often to be married, employed full time, etc., than their male counterparts, this could have a substantial effect on the demographic distributions just examined.

TABLE 2. *Sample characteristics by race and interview mode for 18- to 25-year-olds with nontelephone households excluded from in-person sample*

	African-American		White		Hispanic	
Characteristics	Telephone (n=39)	Personal (n=63)	Telephone (n=250)	Personal (n=318)	Telephone (n=27)	Personal (n=34)
Age						
18 to 19	28	25	22	26	33	29
20 to 21	23	29	23	25	22	21
22 to 23	28	21	26	27	22	24
24 to 25	21	25	29	22	22	27
Sex						
Male	26	37	43	53*	41	50
Female	74	63	57	47	59	50
Marital status						
Married	18	6*	18	11*	22	21
Widowed	3	2	—	—	—	—
Divorced/separated	—	2	3	2	7	3
Cohabiting	5	3	4	2	4	—
Never married	74	87	74	85	67	77
Education						
Less than high school	13	18	9	9	15	15
High school graduate	41	54	38	39	59	41
Some college	33	25	33	32	15	35
College graduate	13	3	20	20	11	9
Work situation						
Employed full time	64	43**	66	69	48	65
Employed part time	23	11	18	14	19	21
Unemployed	5	16	4	6	—	3
Other (not in labor force)	8	30	12	12	33	12
Student status						
Full-time student	26	14	22	28	37	23
Part-time student	8	5	12	11	11	6
Nonstudent	67	81	66	61	52	71
Income						
Under $7,000	27	60*	29	38**	41	49
$7,000 to $14,999	32	18	24	31	33	21
$15,000 to $29,999	32	19	40	26	19	27
$30,000 or more	8	3	7	5	7	3

*p<.05; **p<.01 for contingency table chi-square test of statistical independence (sample characteristic x mode of interview)

Mode Differences In Self-Reported Drug Use

Four substances of high use/prevalence were chosen for these analyses: tobacco (cigarette smoking), alcohol, marijuana, and cocaine. In analyzing drug data, responses from both surveys were pooled into one data set, with mode of interview added to the pooled data set as a categorical variable. Demographic characteristics were entered as control variables in the analyses. Race-of-interviewer effects were also explored but were found to be unrelated to the interview mode and respondent-race effects described below.

Comparisons of drug use estimates are reported for African-American and white respondents only. The telephone survey obtained too few interviews with Hispanics in the 18- to 25-year-old age range to allow for adequate demographic controls and tests for interactions in the multiple classification analyses. The results described below are based on telephone interviews with 39 African-Americans and 250 whites and personal interviews with 63 African-Americans and 318 whites.

Dependent Variables. The original intent in selecting dependent variables was to include, for each drug category, measures of lifetime prevalence, recent use (within the past 12 months), and current use (within the past 30 days). This was done for marijuana and cocaine only. For tobacco, lifetime prevalence (having tried a cigarette even once) seemed fairly trivial and was replaced with the proportion who had smoked five packs or more in their lives. For alcohol, both the lifetime and "last year" prevalence had to be dropped because of lack of variance; 96 percent of white youths, for example, had used alcohol at least once in their lifetimes.

In addition to prevalence and incidence estimates, variables were selected to show the amount of drug use, both current (e.g., the number of cigarettes smoked per day; the number of days a person had a drink, smoked marijuana, or used cocaine over the last 30 days) and lifetime (total number of times respondents used marijuana or cocaine in their lives). Variables were selected to furnish a representative picture of lifetime and current usage of the four drugs selected for the study.

Data Analyses. To control for sample coverage, respondents from nontelephone households were dropped from the personal survey. Analyses are based on weighted drug use estimates. Case weights reflected adjustments for household selection probabilities (including number of telephone lines for the telephone sample), for differential nonresponse, and for census profiles of New Jersey's age, race, and sex composition. Analysis of unweighted data yielded no important differences from the weighted results reported below.

Multiple classification analysis was used to estimate net differences by interview mode and by race and the significance of the mode and race effects. Sample demographic characteristics were entered as control variables in the models. The net differences reported in table 3 (telephone minus personal mode estimates) control for sex, age, employment status, income, education, student status, and marital status. It should be noted that the term "mode effects" in this study refers (for all drugs but tobacco) to the comparison of telephone with a self-administered format in the personal mode. The results are not generalizable to personal surveys with interviewer-administered drug sequences.

Tobacco. Mode effects by race of respondents are presented in table 3. Cigarette smoking is the least sensitive or threatening survey topic of the four substances and, following Sudman and Bradburn (1974), should have been the least susceptible to interview mode effects. This prediction is borne out by the data. There were no significant mode effects for African-Americans or whites on the five measures of smoking. Overall, then, the results suggest that telephone estimates of smoking, when corrected for demographic characteristics of the sample, are comparable to face-to-face estimates for both African-American and white populations.

Alcohol. Questions concerning recent drinking and heavy drinking are more sensitive than smoking, given the negative social reactions to drunkenness and alcoholism. These questions should be more reactive to interview mode effects. Consistent with this prediction, there were more substantial mode effects for alcohol use, after controlling for demographic characteristics of the samples. For African-American youths, the telephone survey yielded lower estimates for all five drinking measures. The results are particularly striking for African-Americans' drinking over the 30 days prior to the interview. The telephone interview estimates for the number of drinking days (1.3 days) and total drinks for the month (2.9 drinks) were significantly lower than in the personal interview (4.6 days and 19 drinks, respectively).

For whites, the results were less dramatic. The differences between the two modes with regard to alcohol use were fewer, smaller, and inconsistent compared with those for African-American youths.

Marijuana. The race by mode interaction is most evident in reports of marijuana use. For African-American youths, the marijuana results were very much the same as for alcohol. The telephone survey furnished consistently lower estimates of African-Americans' marijuana use than the face-to-face survey. Lifetime use was significantly lower as reported in the telephone survey (49 percent) compared with the in-person survey (71 percent). The number of current users was more than three times greater in the personal

TABLE 3. *Weighted drug use estimates by race and interview mode for 18- to 25-year-old respondents*

Drug Type	African-American			White		
	Telephone	Personal	Net Difference[a]	Telephone	Personal	Net Difference[a]
Tobacco (cigarette smoking)						
Smoked 5 packs or more lifetime (%)	26.0	40.0	0.0	50.0	41.0	+0.1
Smoked in last 12 months (%)	33.0	43.0	+0.1	49.0	42.0	0.0
Smoked in last 30 days (%)	28.0	40.0	+0.1	41.0	35.0	0.0
Number of cigarettes smoked per day	2.5	3.2	-0.9	5.5	5.0	-0.2
Number of years smoked daily	0.9	2.0	-0.2	2.3	1.8	+0.2
Alcohol						
Drank in last 30 days (%)	54.0	70.0	-0.2	79.0	84.0	0.0
Number of drinking days/last 30 days	1.3	4.6	-3.6*	5.0	5.5	-0.5
Total drinks/last 30 days	2.9	19.0	-19.0*	20.0	21.0	-0.4
Number of days had 5 or more drinks	0.2	1.3	-1.0	2.3	1.9	+0.3
Drunk once or more last year (%)	31.0	42.0	-0.1	61.0	67.0	0.0
Marijuana						
Used once or more lifetime (%)	49.0	71.0	-0.3**	65.0	65.0	0.0
Used last 12 months (%)	18.0	36.0	-0.1	31.0	35.0	0.0
Used last 30 days (%)	7.7	27.0	-0.1	16.0	20.0	0.0
Used 10 or more times in life (%)	13.0	33.0	-0.2	38.0	34.0	0.0
Number of days used/last 30 days	0.7	2.4	-1.9*	1.2	1.4	-0.1
Number of joints a day/last 30 days	0.2	1.1	-1.2	0.4	0.3	+0.1
Cocaine						
Used once or more lifetime (%)	21.0	30.0	-0.1	32.0	29.0	0.0
Used last 12 months (%)	13.0	19.0	0.0	14.0	20.0	-0.1
Used last 30 days (%)	2.6	11.0	-0.1	7.0	10.0	0.0
Used 10 or more times in life (%)	5.1	9.6	0.0	17.0	11.0	+1.0*
Number of days used/last 30 days	0.1	0.5	-0.4	0.5	0.4	0.0

[a] Net differences (telephone-personal) controlling for sex, age, employment, income, education, student status, and marital status. Nontelephone households excluded from the personal survey.

*p<.05; **p<.01

interview than the telephone interviews, and the number of lifetime users was about 45 percent higher in the in-person survey. For African-American youths, the telephone mode also furnished lower estimates of both the days and the amount of marijuana use over the last 30 days.

For white youths, the remarkable feature of these data is the extent of similarity between the two modes. The net differences between modes were zero or near zero in all six measures of marijuana use. For the State of New Jersey, then, there would be no change in marijuana use estimates for white youths associated with a shift from face-to-face to telephone interviewing. The prediction of greater social desirability effects for the telephone vs. personal interviewing was supported only by the data for young African-Americans, but not for young whites.

Cocaine. The direction of mode effects for cocaine was similar to that found for alcohol and marijuana among African-American youths, although mode effects were not significant. The telephone survey provided lower estimates than the face-to-face survey of young African-Americans' lifetime and current cocaine use. The lone significant main effect was for whites: The number admitting cocaine use more than 10 times in their life was higher in the telephone survey (17 to 11 percent). No other mode differences for whites are apparent. Overall, then, the telephone mode produced generally, but not significantly, lower cocaine use estimates for African-Americans and similar or higher estimates for whites.

DISCUSSION

Looking down the column of results in table 3, a justifiable conclusion for whites is that the telephone survey yielded results comparable with face-to-face estimates across all drug groups. Where telephone estimates for whites were significantly lower—for the current use of alcohol and drunkenness—the percentage differences between modes were small. The RDD sample also reproduced the demographic profile for whites found in the personal mode. The dearth of mode effects for whites is especially noteworthy given the larger sample sizes for them and therefore relatively high power to detect differences.

The conclusions for African-Americans are very different. The telephone survey introduced a significantly higher SES profile for African-Americans. Additionally, even after controlling for SES and other demographic characteristics, the telephone survey resulted in substantially lower estimates of African-American youths' current alcohol consumption and marijuana use, compared with face-to-face results. The telephone interviews also suggested more and larger racial differences in drug use than the personal survey. By telephone, drug use by African-Americans was less than that by whites in all categories. The in-person survey suggested slightly greater use of tobacco and alcohol by whites and few consistent differences between African-American and white youth in marijuana and cocaine use; neither provides a fully accurate description of African-American youth drug use or demographic characteristics. There were considerably fewer African-Americans than whites in the surveys, especially in the telephone mode.

Mode Effects by Drug Category

Large differences between telephone and personal survey estimates were not found for tobacco use, the least threatening of the four drug groups. This is consistent with the mode comparison literature on health surveys and other less threatening topics (Herzog et al. 1983; Herzog and Rodgers 1988; Groves et al. 1987). Mode effects (for African-Americans) were somewhat more evident as the sensitivity of the questions increased, with the strongest differences for recent and heavy drinking and marijuana use. Contrary to expectation, however, the findings were not as clear for cocaine as for the other three drug groups.

Although the telephone survey furnished consistently lower cocaine use estimates for young African-Americans than did the personal survey, the mode differences were not significant. This was somewhat surprising because questions on cocaine should be at least as sensitive as questions on marijuana use. Mensch and Kandel (1988), for example, found significant underreporting of both marijuana and cocaine use in their study of social desirability effects on NLSY drug estimates. The mode differentials for African-American youths' cocaine use in the present study may have reached significance if the sample sizes had been larger (as in the NLSY). Studies with larger samples of respondents and with additional drug categories may be needed to sort out the differences in interview mode effects among various drugs.

Origin of the Interview Mode and Race Effects

Why would young African-Americans display more sensitivity to mode of interview effects than young whites? It is not possible to answer this question definitively with data from this study or through recourse to the survey literature. We do know, however, that minorities in general appear more prone than whites toward socially desirable responding in sensitive surveys, regardless of interview characteristics. Mensch and Kandel (1988) reported that African-Americans and Hispanics were twice as likely as whites in the NLSY to underreport drug use and that, in national drug use surveys, estimates of African-Americans' illicit drug use are consistently lower than estimates for whites. African-Americans also appear less likely than whites to report their own criminal behaviors in surveys (Hindelang et al. 1981; Huizinga and Elliott 1984). It is possible that minorities are more suspicious than whites of surveys of illicit behavior and may have less confidence than whites in guarantees of confidentiality. In turn, heightened suspicions may foster increased reactivity to variations in survey methodology among African-Americans (or other minorities), especially in surveys of illicit or socially sanctioned behavior.

Although this study cannot pinpoint the exact causes of the interview mode effects, a few tenable conclusions can be drawn. The notion that sample characteristics alone account for the mode effects is not supported by the data. The authors have focused on two sources of bias: RDD's exclusion of nontelephone households and differences in demographic profiles because of nonresponse. Exclusion of nontelephone households from the face-to-face sample and controls for respondent demographic characteristics did not reduce the interview mode and respondent race effects for alcohol, marijuana, or cocaine use. Although respondent characteristics differ in RDD and personal modes, they do not fully account for mode differences in self-reported drug use. Interviewer effects also appeared unrelated to the mode differences. Controlling for interviewer race did not alter the pattern of mode effects for either African-Americans or whites.

Apart from sampling issues and nonresponse, the authors suspect that characteristics of the interview situation itself play a role in altering responses to sensitive or threatening survey items. Mode differences in provision of privacy and anonymity are central issues in surveys concerning illegal or socially sanctioned behavior. The self-administered answer sheets for drug use reporting in the personal mode, where interviewers read the questions but do not see the answers, may provide a greater degree of anonymity to respondents than the telephone interview, where the unseen interviewer hears the report directly. Although randomized response techniques have been developed for telephone surveys (Orwin and Boruch 1982), it would be very difficult to use these to ensure greater privacy in drug surveys. To branch to the appropriate followup question, the telephone interviewer must know the answer to the filter question (e.g., followup questions concerning recent marijuana use can be asked only if lifetime use of marijuana is admitted and recorded by the interviewer).

Another aspect of questionnaire design that may be involved in the mode effects is redundancy. In the face-to-face interview, respondents recorded an answer to each question on the self-administered answer sheet, regardless of their history of using that particular drug. Persons who indicated that they never used marijuana, for example, were not branched out of the marijuana sequence at that point but were asked to respond to each marijuana use question. In addition to standardizing the sequence of questions for all respondents, this technique gave respondents more time to reconsider their answers or to admit using a drug after having initially denied it. The high degree of redundancy involved in this method is impossible in a telephone interview. Pretesting made it abundantly clear that, to avoid an extraordinarily high breakoff rate, telephone respondents needed to be branched out of inappropriate question sequences.

A related perspective on the data is that the face-to-face interview with its self-administered format may offer some particular advantages in cueing respondents on questions for which answers are especially remote or difficult to remember. For example, some questions call for respondents to remember actual numbers (e.g., number of drinking days, number of total drinks, number of days of marijuana use, number of joints). These may be inherently more difficult and subject to underreporting bias, especially if they refer to no regular, but reasonably frequent, behaviors. For example, cigarette use tends to be regular and therefore not difficult to remember, so one might predict no differences among modes. Cocaine use, although a sensitive topic, may also be easy to remember because it is a relatively infrequent and noteworthy event. Alcohol and marijuana, especially when used sporadically but with some frequency, may be most subject to memory failure. We can only speculate based on our field experience that the face-to-face situation provides more comfort and time to the young respondents in their efforts to retrieve the information requested.

Changes in question format for telephone administration (two-step and bracketing procedures) are most likely not related to the mode and race differences. Significant effects were obtained for revised items as well as for items with identical formats in both survey modes. Items with identical formats that yielded significant mode and race effects included number of drinking days, total drinks, and number of days with five or more drinks; lifetime marijuana and cocaine use; number of days of marijuana use; and number of marijuana joints smoked.

Applicability to Other Surveys

In surveys concerned with sensitive or embarrassing topics, such as sexual behavior, sexually transmitted diseases, drugs, or criminal behavior, the sample characteristics associated with RDD vs. area probability sampling may be correlated with the behavior the survey is trying to estimate. It is imperative in sensitive surveys to correct for the nontelephone household exclusion and for the higher SES profile produced by RDD sampling. In addition, the authors' findings suggest that responses to sensitive questions may vary by mode of interview and that mode of interview effects may be especially pronounced for minority youth. The results of surveys whose purpose is to estimate racial and ethnic group differences in sensitive or illegal behavior may vary substantially by interview mode. If underreporting of illicit or embarrassing behavior is the biggest threat to validity, researchers interested in sensitive and threatening topics should not assume that all survey modes will furnish equivalent estimates. It is suggested that not only social desirability but also factors associated with memory may contribute to differential mode effects.

NOTE

1. There are, of course, many other general problem areas concerning survey methodology as a whole, no matter how well the survey is conducted.

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Hispanic Dropouts and Drug Use: A Review of the Literature and Methodological Considerations

Ernest L. Chavez

INTRODUCTION

Because of this Nation's history of compulsory education for children, those individuals who drop out of school have long been a concern and an area of interest for researchers (Natriello et al. 1990). However, during the 1960s when the general trend of dropping out was decreasing, the number of articles, books, and chapters related to the dropout issue also decreased. In the 1980s the dropout issue again became of interest to researchers, primarily because of increasing awareness of the exceptionally high dropout rates among inner-city and Hispanic youth (Dryfoos 1990).

This chapter discusses the difficulties of conducting research with dropout populations and makes various recommendations. The chapter draws on the existing research literature on dropouts and on lessons learned from the author's experience in the field.

THE DROPOUT RATE

There are several methodological issues that should be considered when conducting research with school dropouts, one of which is the computation of the dropout rate. There are three different methods of computation. The *event dropout rate* measures the number of students dropping out in any given year. This rate can be misleading because it calculates only the number of students leaving a given school district and may not take into account students who enroll in other districts or students who leave school, return, and then leave again. The *status dropout rate* attempts through major surveys to evaluate the proportion of individuals in a given age grouping who have completed school or are enrolled in school at one time. The status rate always appears higher than the event rate because of its increased sensitivity to the cumulative annual event rate. The third method for considering dropouts is the *cohort rate*, which is obtained by following a single group or cohort of students across time and evaluating their school completion rates.

A recent General Accounting Office (1992) report summarizes the national statistics on these three methods for considering dropout rates. The event rate is presented through the National Center for Educational Statistics 1989 report (Kaufman and Frase 1990), which uses data from the Current Population Survey (CPS), an annual nationally representative sample of households. The general event dropout rate according to CPS has been declining since 1978. However, the rate for Hispanics has been erratic and is higher than the rates reported for African-Americans and whites. From 1987 through 1989 the reported rate for Hispanics was 7.9 percent. Overall, the event rate for Hispanics is double the rate reported for white non-Hispanics. Given that this survey is a national probability sample, the number of Hispanics in the total sample is small and does not allow for differences within the various Hispanic groups (i.e., Cuban, Puerto Rican, and Central and South American subgroups). Furthermore, some studies have reported that dropout rates for Cuban, Puerto Rican, and Mexican-American youth are different and that combining these numbers into one generic group, Hispanic, may result in spurious findings (U.S. Census Bureau 1990; American Council on Education 1991). The event rate is the most frequently used method for assessing the dropout problem within the school districts and is susceptible to several difficulties. For example, the students who are counted in this rate must have enrolled during the semester in which the count is taken; thus, those students who never appear for the next year could well be missed. For a more thorough discussion of these computation methods as well as the status dropout rate, the General Accounting Office (1986) has produced an excellent resource.

Researchers in the field should be careful to consider which of these various measures is being considered and should state within their research their definition for dropouts. Chavez and Swaim (unpublished data) have had experience showing that dropouts are not all the same; that is, the individual who does not show up for the 10th grade may have different reasons for dropping out than the high school senior who has just found out that he or she has more requirements for graduation and must attend summer school. In a rural sample (Chavez and Swaim, unpublished data), during a 1-year period, two-thirds of the male Mexican-American senior population being studied dropped out of school. The major reason cited by these rural dropouts for leaving school was that they had become aware of requirements that would have necessitated attendance at summer school, and they were unwilling to attend. These students would have been defined as dropouts given the event rate definition, but those students who do not attend school during the junior high to high school transition year would not be considered in the event rate. These students are arguably different from the senior dropouts, and if there was not a clear articulation of the subject population of dropouts being surveyed, the findings could likely be generalized beyond the sample.

Differences in drug use and other problem behaviors are likely related to these developmental differences, and generalizing or combining data from these groups may not be appropriate.

Because some researchers do generalize from small samples that may be heterogeneous in their composition, the computation of effect size should be an important feature of research articles in this area, along with specificity regarding sample demographics.

SAMPLE SPECIFICITY

Dropout research should also delineate both the type of dropout being considered and the time that the survey or interview takes place. Although certain generalizations regarding dropouts can be made regardless of their ethnicity or race, there are also significant differences among dropouts. For example, studies indicate that Hispanic dropouts are less likely than others to return to school. Kolstad and Owings (1986) report that African-American and Hispanic dropouts in their study were less likely to return and complete high school and that only 30 percent of Hispanics and 33 percent of African-Americans had returned to school compared with 41 percent of white dropouts. Kolstad and Kaufman's (1989) study reported that only 39 percent of Hispanics had returned to school or enrolled in general equivalency diploma classes compared with 51 percent for African-Americans and 54 percent for whites. A larger percentage of Hispanic male dropouts are likely to hold full- or part-time jobs, and Hispanic males who are enrolled in school work more hours than any other group of high school students (Miller et al. 1988). Because of their higher employability level among males under age 20, Hispanics have higher reported incomes than either African-Americans or whites within this same age group. However, when one considers 20- to 24-year-old males, the income levels for Hispanics and African-Americans drop below those reported for white non-Hispanics (Miller et al. 1988). The data suggest that Hispanic dropouts, although employed, are in low-paying jobs and that, accordingly, their income level is below that of white non-Hispanics and similar to the income reported for African-Americans.

The period after dropping out at which the individual is surveyed or interviewed is also an important issue. For example, Mensch and Kandel (1986) obtained substance use rates from adults 19 through 27 years of age who had dropped out of school and had been out of school for some time. Chavez and colleagues (1989) reported substance use data on dropouts with an average age of 16 who were surveyed within the same semester in which they dropped out of school. Therefore, even though the reported results were similar, in that both studies report higher lifetime prevalence of drug use among dropouts, the differences in age and life circumstances may indicate different predictors or underlying mechanisms for drug use.

HISPANIC AS A LABEL

The use of the generic term "Hispanic" creates serious methodological concerns given the heterogeneity of this population and the fact that many research assumptions are based on small "Hispanic" samples. The various subgroups that make up the Hispanic population in the United States are different in their demographic makeup as well as in the specific social problems faced by each group. There are also certain value system differences among the various Hispanic groups. The earliest Cuban immigrants came from the educated and middle classes and had a history of entrepreneurship. The Mexican immigrants since 1949 frequently have been agricultural workers and come from rural settings in northern Mexico. Cuban-Americans are both the oldest and the most affluent of the major Hispanic groups and report a very low school dropout rate. It has been estimated that by the year 2000, Mexican-Americans, who make up 58 percent of the Hispanic population, will account for the majority of those individuals under the age of 30 living in the southwestern United States (Western Interstate Commission on Higher Education 1987). The median age for Mexican-Americans is 23, compared with 32 for white non-Hispanics, and this subgroup has a higher birth rate than either whites or African-Americans, which, along with dramatic increases in migration from Mexico, makes this one of the fastest growing ethnic subgroups in the United States. The 1990 census indicates that the Mexican-American family average income ($26,682) is more than $20,000 below the average income for non-Hispanics ($49,479).

One important methodological issue that researchers must address is the heterogeneity of the Hispanic population in the United States. As has been shown, the various Hispanic subgroups are demographically and to some extent culturally different, and these differences are likely to account for differences in substance use among these groups. Generalizing from one group to another is probably inappropriate.

DROPOUTS AND DRUG USE

Collecting data from school dropouts presents several issues, some of which have already been discussed. In addition to the problems inherent in gathering data on drug use—such as low response rates for individual drugs, underreporting of drug use, and reliability and validity issues—the nature of the population of dropouts being studied complicates this research.

The relationship between dropping out of school and the use and abuse of drugs has been documented by several authors (Winburn and Hays 1974; Annis and Watson 1975; Kandel 1975, 1978; Elliot et al. 1985; Mensch and Kandel 1986). Recently, Fagan and Pabon (1990) published an excellent research article and literature review of the relationship between drug use, delinquency, and dropping out. The sample in this study comprised 2,467 subjects: 993 males in school, 1,076 females in school, 255 male dropouts, and 143 female dropouts. Twenty percent of the sample was Hispanic, most probably Puerto Rican, and more than 70 percent of the sample was African-American. Fagan and Pabon (1990) concluded that "there seems to be a spurious relationship between substance use, delinquent involvement, and school dropout." For Hispanic dropouts, of whom there were only 52 males and 28 females, they concluded that "weak family bonds, social isolation, and negative peer influences are especially significant factors in school dropout." They also assumed that delinquency and substance use may be symptomatic of other problems that contribute to dropping out. This study is an example of a research project with a limited sample of Hispanic dropouts that attempts to make rather broad generalizations regarding this group. One unanswered question is, Which group of Hispanics was surveyed? If the 28 Hispanic female dropouts include both Puerto Rican and other Hispanics, this further compromises the possible generalizations. The researchers did not cite effect size and seemed to attempt to construct models from these small samples.

The literature investigating the relationship between dropping out of school and substance use among Mexican-American youth is quite limited but is more extensive than the literature on Cubans, Puerto Ricans, or Central Americans. Bruno and Doscher (1979) studied a sample of 78 Mexican-American and white non-Hispanic potential dropouts and found that 67 percent reported marijuana use at a rate of once a week or more. This was the only study on Mexican-American school dropouts and drug use published prior to 1989. Thus, the author and colleagues' research was intended to fill this data gap. This Mexican American Drug Use and Dropout study began in 1987 with funding from the National Institute on Drug Abuse (NIDA). High school students and dropouts from three different school districts in the southwestern United States were recruited to participate in this study. Contracts were developed with each of the districts, and school district personnel were hired to conduct interviews and administer questionnaires. This technique allowed access to all school district records for each subject. After a student drops out, the interviewer initiates a series of contacts with that dropout as well as two yoked control subjects. The dropout is contacted and asked to participate in the project; if the individual is under the age of 18, parental permission is also obtained. Subjects are paid for their participation. When the dropout subject agrees to participate, two other subjects are recruited. These two yoked control subjects are matched in two ways with the dropout: The first control subject is considered to be at educational risk, in that he or she is matched as closely as possible to the dropout's grade point average (GPA). The control subject is also matched for ethnicity, age, and gender. The second group of control subjects is not matched by GPA, but all other criteria are matched.

Therefore, the steps that should be considered by researchers interested in conducting research with dropouts are to (1) establish a relationship with the school system, (2) develop a working definition of a dropout, (3) develop the specific procedures for gathering data with attention to whether heterogeneity or homogeneity of the dropout sample is required in the study, and (4) establish specificity of the sample, including whether control group subjects are required.

FINDINGS

Results of the first year of full data collection were published in 1989 (Chavez et al. 1989). Dropouts had the highest rates of drug use, followed by educationally at-risk students; in-school control group subjects were the lowest in self-reported drug use. Dropouts reported a high incidence of being both victims and perpetrators of crime. However, there were gender differences among dropouts, as well as gender and ethnic interactions. An article in preparation (Chavez and Swaim, unpublished data) summarizes 3 full years of data collection and involves 948 subjects: 245 Mexican-American (MA) male dropouts, 93 white non-Hispanic (WnH) male dropouts, 140 MA female dropouts, 85 WnH female dropouts, and relatively equal numbers of subjects in each of the two yoked control groups.

Results indicate that male dropouts, regardless of ethnicity, report the highest use of substances in the last month. More than 70 percent of both MA and WnH male dropouts report using alcohol in the last month, with more than half reporting intoxication during the last month. Male dropouts also report the highest use rate of marijuana in the last month (MA=47.8 percent, WnH=43.5 percent). Cocaine and hallucinogen use are also significantly higher for male dropouts. Female dropouts also report significantly higher use rates for alcohol in the last month (MA=54 percent, WnH=64.7 percent), with 27.2 percent of the MA female dropouts reporting intoxication in the last month, compared with 38.8 percent of the WnH female dropouts. Use of cocaine, marijuana, "downers," and hallucinogens was also significantly higher for female MA dropouts compared with their two yoked control groups. WnH female dropouts self-reported highest use in the last month for marijuana and hallucinogens. Both groups were significantly high in reported nitrite use. Both male dropouts and educationally at-risk subjects of both ethnicities report high rates of perpetration of violence. As can be seen from these data, dropouts and at-risk subjects appear somewhat different from one another. Thus, generalizing from data such as those presented by Bruno and Doscher (1979) to include dropouts would be somewhat inappropriate because educationally at-risk students, although they have high drug use rates, evidence lower drug use rates compared with dropouts.

Chavez and colleagues (1989) found that dropouts in both ethnic groups reported high rates of victimization. Females evidence a different profile, in that MA female dropouts are significantly higher in self-reported use of knives, guns, and clubs, and WnH female dropouts report high rates of victimization.

METHODOLOGICAL AND ETHICAL ISSUES

One of the most serious general methodological problems encountered by this research project is presented by Wehlage and Rutter (1986), who argue that enormous resources are being spent defining the characteristics of dropouts while avoiding unresolved institutional issues within school systems. To quote the authors "If the research on dropouts continues to focus on the relatively fixed attributes of students, the effect of such research may well be to give schools an excuse for their lack of success with the dropout." Fine (1986) argues that schools do little to change the existing social inequities and may even reproduce or exacerbate existing social problems. She argues that having a high school degree is not equally beneficial to all groups, but rather, "Women's return on education has been estimated at 40 percent of men's, and blacks' approximately 63 percent of whites."

Thus, researchers have to ask themselves the moral question of whether research is serving to maintain stereotypes and, in effect, blame the victim for discriminatory or inequitable practices within social systems. Scientists often believe that they are above morality, that is, that results are truth and do not have a morality. But everything has a moral value. If every effort is not made to have research information placed within a larger social context, it may be used to maintain the status quo. Dropping out of school is not always a socially deviant behavior; an individual may be escaping a negative and discriminatory environment. As Wehlage and Rutter (1986) report from the High School and Beyond data, dropout self-esteem improves once dropouts leave school. Why? What are the circumstances under which someone chooses to leave school? What of the issue of pushouts? Anecdotally, field staff members have encountered circumstances in which individuals have been told that they should drop out to avoid being suspended. One student was told that if he were suspended, it would "hurt" his record and he should just quit school. The student took the advice and dropped out. Many teachers of at-risk students report that they and their school systems are being overburdened. This causes some teachers to wish that those students who cause them the most difficulty would leave the system. Researchers must be sensitive to how data may be used and make every effort to have the data assist in social change.
The educational process is a joint effort between the individual student, his or her parents, and the school system. The failure within this system of any given individual is a complex problem that requires complex interpretations. A longitudinal study of Mexican-American dropouts would help to answer some of the issues presented.

Additionally, the author and colleagues are encountering two major problems with the matching procedures. One of the districts in which we are collecting data is rural, and in the senior class of 1988 there were only eight Mexican-American males when classes began in the fall. By the spring only three Mexican-American males remained in school; thus, we are unable to recruit either at-risk controls or in-school students to match the dropout sample. The second problem encountered involves matching educationally at-risk control subjects to the dropouts' GPA. Many of the dropouts have GPAs of 0 or .5, and it is very difficult to find anyone who remains in school with a similar GPA. Chavez and colleagues (1989) reported that educationally at-risk subjects had higher GPAs than the controls, although they were lower than the "not at-risk" controls. Some of the at-risk students included in data gathered in years 1 and 2 of the project are now dropouts, which validates their having been selected as at-risk controls. Yet these yoked subjects are not as similar on baseline data as originally hoped. Matching of students should be considered in some detail by any researchers considering this method.

Maintaining strong relationships with the school districts involved in the project is a necessity. Having research personnel who have been involved with the district has assisted the author and coworkers with entry to junior and senior high schools. Individuals entering the system from the outside would find substantial difficulties. Even with this relationship with the three districts, we frequently encounter difficulties with individual principals who may choose not to allow access to certain records. There are times, even with letters of support from district administrators, that individual schools feel that allowing access to their records jeopardizes them in some way. In these cases it is important for field staff to maintain frequent contact with these schools, dispelling rumors and solidifying relationships. Of course, this seriously interferes with field time spent in gathering data, but it is a necessity.

CONCLUSION

Dropouts use drugs more than either educationally at-risk students or those students who remain in school. However, they most probably progress to drugs differently, and some are very likely to change their drug-taking behavior over time. Researchers must continue to evaluate this issue, but prospective longitudinal studies are needed. Researchers should also specify their populations of study. They must be very clear, if they are working with a Hispanic sample, on what group they are collecting data. Dropping out of school is hurting minorities in this country, and very little is known about how to change dropouts' drug-taking behavior, given that most prevention programs are school based. This group of students is probably not following the longitudinal trends of seniors, and although they may discontinue drug use after leaving school, the social and economic costs of drug taking remain.

Researchers need to make clear that this group is not being attended to and bring data on these dropouts to the attention of public policymakers. Researchers could easily be a part of the problem if they are not careful in their interpretations. It is important not to overgeneralize from samples, and sufficient sample size must be maintained to ensure both statistical and social power.

The issues of dropping out of school and drug use present several methodological problems to researchers. These problems are exacerbated by interest in and collection of data from Hispanic-Americans. Researchers who are interested in these two topics must consider the various issues presented in this chapter when developing their research paradigms.

In "The Outline of History, Being a Plain History of Life and Mankind," H.G. Wells (1922) said, "Human history becomes more and more a race between education and catastrophe." The loss of half a population or subgroup to undereducation cannot be sustained by this country over time, and for Mexican-Americans and Puerto Ricans the catastrophe is now. The relationship between dropping out and drug use must be further elaborated on with large enough samples to allow for modeling and generalization.

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Getting Into the Gang: Methodological Issues in Studying Ethnic Gangs

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INTRODUCTION

The study of gangs has a long but rather uneven and curious history. The tradition begins in the roaring 1920s, with Frederick Thrasher's classic study (1927), "The Gang: A Study of 1,313 Gangs in Chicago." His principal concern was to understand the development and processes of gangs; this social phenomenon was increasingly visible in transitional areas of the city, where large numbers of recent European immigrant groups were settling. His work was informed by the University of Chicago's theoretical framework of social ecology and methodological tradition of ethnography. Researchers still regard Thrasher's 7 years of fieldwork as the most ambitious and comprehensive to date. It entailed extensive observations; interviews with gang members, local residents and merchants, and public officials in Chicago; and analyses of census and juvenile court documents.

A few descriptive studies of ethnic gangs followed Thrasher's pioneering work and were best represented by Whyte's (1943) piece on neighborhood groups of young Italian men in Boston. Jackson (1989) notes that these studies were primarily concerned with process questions and continued to rely on such ethnographic methods as personal and/or participant observation and interviews.

From the 1950s to early 1970s, a new generation of sociologists emerged who were principally interested in the etiology of gangs. During this period, they developed numerous theoretical concepts and issues that led to endless academic debates over such theoretical matters as "focal concerns" (Miller 1958), "reaction formation" (Cohen 1955), "criminal, conflict and retreatist gangs" (Cloward and Ohlin 1960), and "near groups" (Yablonsky 1959). Some of these theoretical ideas were put to the "empirical test" through interviews with gang members and personal observations (e.g., Short and Strodtbeck 1965). But many observers noted that this period of gang research was far too heavy on theory and far too slim on empirical work (Klein 1971; Hagedorn 1988; Spergel 1984).

Gang research was essentially put to rest for the next decade as researchers shifted their focus to other areas such as evaluations of diversion programs, general studies of delinquency behavior, and advancements in methodology. However, sociology and criminology recently have witnessed a resurgence of interest in understanding youth gangs. Many current studies have been concerned less with questions about social processes and causality and more with crime control (Klein and Maxson 1989; Fagan 1989). This focus stems in large part from public policy concerns over the gang problem that has assaulted America's metropolitan centers and that has spilled over into smaller cities and towns (Hagedorn 1988). In recent years, the issue has not simply been the presence or spread of youth gangs but their connection with violence and drugs.

This particular focus has been accompanied by different methodological considerations and techniques as well as different funding sources. Many of these efforts have relied primarily on official data sources such as official arrest and homicide statistics (Maxson et al. 1985; Klein et al. 1986, 1991; Curry and Spergel 1988), discussions with law enforcement and public officials (Reuter 1989), and inmate interviews derived from convenience sampling strategies (Skolnick et al. 1989). One ongoing study employs a combination of these techniques and includes interviews with gang members, law enforcement and school officials, social service personnel, and community members; observations of police operations; review of gang-related arrests; and surveys with administrators of the juvenile court, the police, and the schools (Huff 1989).

But official data sources are complicated by numerous political, organizational, and individual biases (e.g., campaign promises, arrest quotas, racism). In addition, other discrepancies make these data difficult to interpret and generalize, including the high degree of variability in how cities define and respond to gang-related crimes (Klein and Maxson 1989; Spergel 1989).

Other recent efforts to study gangs have adopted a different approach. Several researchers are trying to revive the use of ethnographic methods to understand today's ethnic gangs (Hagedorn 1988; Vigil 1988; Jankowski 1991).

AN ETHNIC-SPECIFIC FOCUS

Thrasher (1927) suggested, more than 60 years ago, that ethnicity is an important dimension in gang dynamics, especially during ecological succession when one ethnic group and its gang succeed over another, resulting in fights between different ethnic gangs. Thrasher's understanding of the connection between ethnicity and gangs was tied to the European immigration and African-American migration experiences.

Ethnicity continues to be an important aspect of gangs, but as Hagedorn (1988) notes, the ethnicity of gangs has changed since Thrasher's time. It no longer involves European immigrants but, rather, minority youngsters. For the past several decades, gangs have largely involved African-American, Hispanic, and Asian adolescents (Miller 1975). Furthermore, the relationship between ethnicity and gang conflict is more complicated today than in the 1920s. Gang members are often engaged in fights with rival gangs of their own ethnicity. African-American gangs are fighting other African-American gangs. Hispanic gangs are battling with other Hispanic gangs (Moore et al. 1983). Asian gangs are contending with other Asian gangs.

Despite this, an ethnic-specific focus has not been central to theoretical and methodological developments in gang research until very recently. Most researchers of the 1950s and 1960s were principally concerned with theory building, and when data were used to test hypotheses, issues of ethnicity and race were often downplayed or ignored. For example, Cohen's (1955) analysis of gangs disregards race and instead focuses exclusively on class (Hagedorn 1988). Unfortunately, ethnic-specific research on youth gangs has been sporadic and limited.

This chapter addresses this research gap and has several interrelated purposes. First, it provides a brief overview of the current state of research on ethnic gangs, looking at the nature of these studies, the primary methods used, and the reasons for the sporadic development of an ethnic-specific focus. Second, it examines how researchers can begin studying ethnic gangs. This latter section focuses on the methodological procedures—specific tasks, general problems, ethnic-specific concerns, and strategies to overcome problems and barriers—of an ongoing ethnographic study of ethnic gangs in San Francisco, CA. Discussion of ethnic-specific issues focuses particularly on Asian gangs, but comparisons are made with African-American and Hispanic youth groups to illustrate the unique methodological issues involved in studying different ethnic groups.

CURRENT RESEARCH ON ETHNIC GANGS

Recent efforts to study Hispanic gangs and their communities have started to fill the research gap and underscore the importance of adopting an ethnic-specific and culturally sensitive approach to studying ethnic youth gangs. Moore and colleagues' (1978) research on Chicano gangs in Los Angeles is perhaps the leader in this development. Their landmark study is based on a well-balanced research collaboration with Chicano gang members and provides an indepth look at the institutionalization of gangs in Los Angeles barrios and the nature of Chicano gang subculture (i.e., age-graded cliques, allegiance to the barrio, emphasis on particular Mexican customs and norms such as the importance of kinship). Anthropologist Vigil (1988) followed Moore's lead, conducting extensive fieldwork in the barrios of East Los Angeles and offering a new perspective on Chicano gangs. This perspective focuses on multiple marginality, which "encompasses the consequences of barrio life, low socioeconomic status, street socialization and enculturation, and problematic development of a self identity. [And] these gang features arise in a web of ecological, socioeconomic, cultural and psychological factors" (Vigil 1988, p. 9).

Horowitz (1982, 1987) and Horowitz and Schwartz (1974) explore issues such as honor and violence and community tolerance in relation to Chicano youth gangs in Chicago. These studies are based on 3 years of participant observation and a 7-year followup of the youngsters. Zatz (1985, 1987) provides a different perspective on Hispanic youth gangs by examining official reactions and responses to gang members in Phoenix, AZ.

By comparison, there are only a few studies on African-American gangs in places such as Chicago and Philadelphia, and most of these were carried out during a politically tumultuous time when delinquency prevention programs were devised as a cure-all for poverty and crime (e.g., Short and Strodtbeck 1965; Krisberg 1974). The political and economic climate of this period was especially unique. These studies were typically based on interviews with gang members who participated in various crime prevention programs, youth workers, and politically astute community activists. Personal observations supplemented some of these studies. Despite the merits of these studies, they generally cannot provide insight into the complexities of today's African-American youth gangs, their neighborhoods, or contemporary social policy.

However, Taylor's (1989) recent study provides a foundation for studying inner-city African-American gangs. He adopts a community strategy similar to that found in the growing number of Hispanic gang studies and attempts to understand African-American gangs in relation to economic, political, and institutional changes in Detroit neighborhoods. Taylor's investigative team relies on a combination of methodologies, including an initial 6-month "surveillance" period, extensive contact and discussions with community members (e.g., nongang youth, residents, merchants, recreation workers, teachers), and group and individual interviews with gang members.

Comparative research on African-American and Hispanic gangs is slowly emerging and can generally be grouped into two categories. One set of studies relies largely on official data sources and offers the advantage of viewing the gang issue in an institutional framework (Skolnick et al. 1989; Klein et al. 1986, 1991; Maxson et al. 1985; Curry and Spergel 1988). But many of these efforts are principally concerned with developing and testing sociological concepts and hypotheses. Moreover, they offer little in the way of understanding the gang phenomenon from the perspective of those who are closest to the experience itself or of clarifying how public policy would effectively address the needs of these young people and the communities they live in.[1]

In comparison, this is precisely the research agenda of the second set of recent comparative studies. Hagedorn's (1988) study of African-American and Hispanic gangs is based on interviews with gang leaders from a snowball sampling strategy, an investigation of official responses to the gang problem, and an analysis of the impact of economic segmentation and social dislocation on Milwaukee's neighborhoods. At one level, this combination of methodological strategies provides policymakers and researchers with an understanding of the variable nature of gang formation and organization and of the individual member's experience. At another level, it reveals how gangs are interconnected with community dynamics and social transformations. Jankowski (1991) addresses similar concerns in his ambitious 10-year ethnographic study of African-American, Puerto Rican, Chicano, Dominican, Central American, Jamaican, and Irish gangs in New York, Boston, and Los Angeles.

Asian gangs are the most understudied of the ethnic groups. For reasons discussed in the following sections, researchers have found both the Asian community and Asian gangs difficult to access (Jankowski 1991; Chin et al. 1990). A few studies have followed the development of Chinese youth gangs in San Francisco and Vancouver (Takagi and Platt 1978; Joe and Robinson 1980; Joe 1981). Two other endeavors focus on Asian gangs in New York, with Sung (1977, 1987) providing life histories of Chinese gang members and Chin (1990) trying to establish a connection between Chinese secret societies, tongs, and New York Chinatown's street gangs. The difficulties associated with accessing Asian gangs and their communities have led to the use of different methodological strategies from those found in other ethnic gang studies. Unlike those who have made studies on Hispanic and African-American gangs, these researchers have not relied on personal and participant observations as a method for studying Asian gangs. The principal strategy of Asian gang studies has involved interviews with community activists, youth workers, the police, and small samples of gang members and reviews of public documents and news articles.[2]

Why So Little Research on Ethnic Gangs?

How can the overall sporadic development in research on different ethnic gangs be explained? Hagedorn (1988, 1990) identifies several reasons for the general dilemmas of gang research (i.e., lack of theory, lack of empirical work, overemphasis on crime), which the author would argue also helps explain why sociologists have generally avoided an ethnic-specific focus in studying youth gangs. Hagedorn (1988, p. 27) argues:

> One reason is that the vast majority of sociologists and researchers are white, and gangs today are overwhelmingly minority. The history of the lack of minority participation in research is a long one (Moore 1973; Takagi 1981). While there are serious ethical and epistemological questions involved, the fact is that sociologists in the 1980's have not considered minority gangs to be subjects of particular scientific interest. For white sociologists, 'benign neglect' may be tempered with the difficulties of access.

In the case of Asian gangs, the lack of scientific interest is also connected to common stereotypes of Asian-Americans being a well-disciplined and hard-working model minority. This typification is problematic in several ways. First, such gross generalizations are extended to diverse peoples with different ethnic origins, unique histories and immigration experiences, and distinct cultural traditions. The term "Asian" itself is quite complex; it includes approximately 34 distinct ethnic groups: Chinese, Filipino, Japanese, Vietnamese, Cambodian, Laotian, and Korean, to name only a few. Second, such popular conceptions have resulted in the myth that Asian-Americans have few problems with juvenile delinquency, crime, alcohol, other drugs, poverty, or housing and that, consequently, there are few social ills in their communities.

Paradoxically, there is little evidence to support or counter these stereotypes, due in part to the insularity and isolation of Asian communities but, more importantly, to the inadequate documentation by government and community agencies (i.e., mental health departments, law enforcement agencies, the criminal justice system, social service agencies, housing authorities). Many public agencies, even those located in geographical regions with large Asian ethnic populations, do not include "Asian" as an ethnic category. Asians are typically lumped into the category "other." As a result, researchers have either not paid particularly close attention to this diverse population or not been able to obtain relevant data.

The lack of minority participation in gang studies noted by Hagedorn may be also attributed to what he calls the "withholding tendency" (Hagedorn 1988, p. 27). In other words, minority scholars may steer clear of this type of research because they are concerned that their findings on street life will not dispel but, rather, will fuel and worsen existing racist generalizations. Although this is a distinct possibility, there is a more basic problem underlying this potential tendency: There are simply too few minority researchers in this field. Although a discussion of the reasons for this is beyond the scope of this chapter, the lack of minorities in the research field is at least partially caused by the expense and time commitment required for academic and professional training and by the fact that, even if minorities do get the necessary training, it is difficult to break into a discipline with an entrenched hierarchy. Others have underscored the critical importance of minority participation (e.g., Taylor 1989). Jankowski (1991) pointed out that, although he targeted Asian and Samoan gangs as a major part of his sample, he was unsuccessful in gaining access to these groups.

One final point merits consideration. Thrasher's classic work demonstrated that ethnography was particularly fruitful for studying youth gangs, but this methodological strategy was not fashionable during the 1970s and even into the 1980s. This was due partly to funding sources and emphasis on gangs as a crime problem as well as advancements in quantitative techniques (Hagedorn 1988). A strictly quantitative approach offers numerous advantages ranging from easy sampling strategies to swift data collection, yet the resulting data are often unreliable and biased. These data also cannot reveal what is distinctive about the "world" of different ethnic groups. But with the increase of the human immunodeficiency virus among injecting drug users, ethnographic approaches for studying life in inner cities have become important tools for researchers and policymakers, starting in the mid-1980s and continuing into the 1990s. Nevertheless, several methodological issues complicate the study of ethnic gangs.

METHODOLOGICAL ISSUES IN STUDYING ETHNIC GANGS

The following sections first identify these methodological issues and discuss their implications for research. Then, ways are offered to resolve potential study problems by drawing on experiences from a current 3-year research project on San Francisco's ethnic gangs, the Homeboy Study. This research project's primary objective is to acquire a better understanding of the organization and activities of ethnic gangs and is particularly concerned with exploring the relationship between gang involvement, crack sales, and violence. Recent studies (Klein and Maxson 1989; Skolnick et al. 1989) have examined this connection using indirect approaches such as police identification files, arrest data, and institutional population samples.

In contrast, this study adopts a more direct strategy, which combines the use of traditional ethnographic and social survey methodologies. The interview schedule is both qualitative and quantitative in nature and focuses on issues related to the group's history, organization, and activities as well as personal demographics, alcohol and other drug use, individual history and current involvement with the group, and prior contact with the judicial system. Because of the length of time required for the interview, each respondent receives a $50 honorarium. The sampling framework is based on a snowball sampling strategy, and referral sources are paid a locator fee for their assistance in making contacts for interviews. To obtain a representative sample from each ethnic gang, 10 members from each group have been targeted, with half the members younger than 20 years of age and the remainder 20 years of age and older. As investigators for this project began the research process, several interrelated methodological issues were especially relevant:

- Defining the issue
- Identifying and gaining access to this "hard-to-reach" population
- Dealing with the general methodological concerns in studying gangs
- Addressing ethnic-specific issues in studying gangs
- Interviewing gang members and validating their responses

What Are We Studying? Defining Gangs

Thrasher (1927) conceptualized gangs in terms of "interstitial groups" that initially emerged spontaneously but became more fully integrated through conflict. Since then, sociologists have spent decades trying to define the concept and have yet to agree on a general working definition. As Fagan notes, "The distinctions between youth groups and gangs have varied over the years, as have the distinctions between gang crimes and nongang delinquent acts" (Fagan 1989, p. 638). These variations are caused partly by differences in researchers' theoretical interests and orientation. Changes in the definition of gangs also reflect larger political concerns and public policy shifts (Klein and Maxson 1989). These variations underscore the importance of establishing a working definition, even if it is broadly or loosely conceived. How one defines the concept has a bearing on the research and discovery process.

So how shall the researcher define the concept? Does one define it from the perspective of the youngsters of the group? Does one define it according to the views of the police and community members? Or does one incorporate the views of all three groups, as Klein (1969, p. 1427) has done. According to him, a gang is:

> any denotable adolescent group of youngsters who (a) are generally perceived as a distinct aggregation by others in their neighborhood, (b) recognize themselves as a denotable group (almost invariably with a group name), and (c) have been involved in a sufficient number of delinquent incidents to call forth a consistent negative response from neighborhood residents and/or enforcement agencies.

Although this definition seems well balanced, it presents problems. For example, given this definition, how does a researcher select potential respondents? Although the police or community members may perceive a certain group of adolescents as a gang, the youngsters of the group may not view themselves in the same way. In the Homeboy Study, one well-known youth worker in the Asian community referred the members of a small "gang." When the project researchers began interviewing individual members, questions pertaining to the name of the gang or group were met with genuine puzzlement. These youngsters adamantly stated that they were not a gang but "just a group of guys who hung out together." They did not have a name for their group. A few of them further indicated that they had been previously arrested and, during this official contact, learned that the police had listed them as members of "x" gang. A Latino fieldworker has found that many Hispanic youngsters proudly identify themselves as "homeboys"—individuals who grew up in the barrio or neighborhood—but may acquiesce to the term "gang" member because of the large number of homeboy groups and regional and prison affiliations.[3] Some African-American adolescents indicate that they adopted terms such as "posse" and "mob" from the media.

Definitions such as Klein's impose other restrictions on the research process. For example, according to Klein, delinquency is a necessary condition of the gang. But Jackson notes that "most of the gang member's time is spent in nondelinquent pursuits, as researchers who have hung around for months waiting for 'something to happen' have discovered" (Jackson 1989, p. 314). The author and colleagues' observations of and interviews with San Francisco ethnic gang members are consistent with Jackson's findings; these groups are not necessarily involved in crime and delinquency.

It became clear from these experiences that a flexible working definition was essential. The author and colleagues have not imposed a rigid academic definition but have been willing to explore self-definitions and have avoided both the common assumption of participation in delinquent activities as well as the imposition of official and community labels.

Getting Into the Gang—Identifying and Gaining Access

How does a researcher get into and begin understanding the world of these youngsters? Some gang researchers who have conducted interviews and observed these groups provide few details on their research procedures and the problems they encountered (Joe and Robinson 1980; Horowitz and Schwartz 1974). Did they simply start hanging out on a street corner and wait for group members to grant them recognition?

Recent gang researchers who are working in the ethnographic tradition have found the process more complex than this and have supplied detailed accounts of their strategies for accessing their target population (Moore et al. 1978; Hagedorn 1988; Taylor 1989; Jankowski 1991). Although their experiences in the field are instructive for studying particular ethnic youth groups, how can their approaches be incorporated into a comparative framework? Researchers interested in studying ethnic gangs are likely to find that identifying and gaining access to this target population are formidable tasks and involve numerous methodological problems.

General Problems in Studying Ethnic Gangs. At the national and State levels, there are neither precise figures of the number of gangs nor of the number of gang members. This unknown universe makes it virtually impossible to develop a straightforward probability sampling strategy. Sampling is further complicated by variations in the longevity of the group, instability of individual membership, and changes in leadership and group rules (Fagan 1989).

Furthermore, gangs may or may not have high social visibility, adding to the difficulties of locating a study sample (Biernacki and Waldorf 1981). A group's visibility is dependent on several factors, including the utilization of a hangout or turf (and whether it is publicly accessible), nature of the group's activities, police surveillance, and community tolerance.

Researchers are likely to encounter other problems even after they have targeted a potential sample. The most critical one is to gain access to the group's world and to obtain the youths' point of view. Gang members are often suspicious, believing that the researcher is a law enforcement official. Moore and colleagues point out that "pintos" (i.e., convicts or ex-convicts) perceive "scholarly informants" in terms very similar to the "police informant" (Moore et al. 1978, p. 4). In addition, past exploitative experiences in prison with researchers may foster distrust (Moore et al. 1978). Taylor's (1989) experience in making initial contact with his target population supports this view. Members of the African-American corporate gang under study were initially hostile, rejecting his investigative team's inquiries and suspecting the team members might be law enforcement agents. But as Taylor (1989) notes, part of this suspicion was connected to the team's field observations of drug sales in the area.

In addition, younger gang members and immigrant adolescents may not understand the concept of research nor why someone is interested in talking with them. In these instances, interviewers should clearly explain the purpose of the study to alleviate anxieties about confidentiality. The "book approach"—"we want your story"—may be useful in this setting.

Researchers must also consider the respondents' openness and veracity. Is the member telling the researcher whatever he or she wants to hear? Is the member minimizing or being vague about his or her or the group's activities or exaggerating his or her or the group's activities to brag?

Ethnic-Specific Issues. In addition to these general methodological problems, there are several ethnic-specific issues that researchers must consider in studying ethnic gangs and their communities. The most pressing issue for researchers is the overall reluctance of ethnic communities to talk about the issues. In designing an appropriate research strategy for these populations, it is necessary to understand the political, social, and cultural reasons why different ethnic communities maintain silence. At the political level, ethnic communities are likely to be distrustful of the intent and motives of outsiders. Furthermore, past promises of information sharing on completion of a research effort may never have materialized, leaving community members embittered about their honesty with outsiders.

At a more specific level, Taylor (1989) identified the "omerta" or "silence for self-preservation" as a principal factor inhibiting discussion of the issues among street people in Detroit's African-American neighborhoods. Other community members such as neighbors, gang member peers, and merchants were more forthcoming than street people after anonymity was guaranteed.

Moore and colleagues (1978) found that Los Angeles barrio residents were more likely to talk about community problems with pinto interviewers than with nonpinto interviewers. This finding was attributed to the pintos' past participation in the community and their openness in hearing about the issues. In comparison, nonpinto interviewers might have projected an image that appeared uncomfortable to the respondent (Moore et al. 1978, p. 202).

The code of silence among Asian-American community members and gangs is related to several factors. First, Asians have had a historical mistrust of outsiders and officials. Newcomers from Southeast Asia are especially fearful of authority figures, having fled from a coercive environment. Consequently, crime and delinquency have frequently gone unreported to the police (Chin et al. 1990; Joe 1981).

At the same time, cultural traditions stress that community or family problems should not be shared with outsiders but dealt with internally. This means "sticking together and taking care of one's own problems." Help from the outside brings only misunderstandings, unwanted attention, shame, and disgrace. As a result, Asian communities tend to take on an insular quality. The local political machinery handles community and, sometimes, family problems. Personal problems are likely to be handled by family members. To illustrate how a family problem is sometimes handled, consider a parent whose child is arrested several times for various delinquent acts. Some parents send their child back to their homeland or to another State to stay with relatives. This is done to straighten the youngster out and to avoid bringing further disgrace on the family (Joe 1991).

In some cases, individuals or family members may approach known staff members of community-based agencies. But as Loo's (1991) recent community survey of San Francisco Chinatown residents indicates, personal problems are most typically addressed through self-help or support from relatives and friends. Moreover, the author's discussions with staff members at these agencies indicate that, overall, Asian-Americans are generally difficult to engage and are prone to deny the existence of such problems as alcohol and other drug abuse, juvenile delinquency, family conflict, cultural shock, and feelings of isolation. For an Asian-American to admit one of these problems means to admit personal and family failure.

Community members are likely to keep quiet about gang activity for other reasons as well. Given the extreme population density of Chinatown combined with the social insularity of the community, residents fear for their personal and family's safety.[4] In addition, local merchants also fear that public disclosure reflects poorly on the community and, ultimately, is bad for business. Some local businesses are involved in both legitimate and illegal enterprises (e.g., gambling operations) and undoubtedly do not want to draw attention to their activities.

Similar to the African-American gangs in Taylor's (1989) study, Asian gang members are also closemouthed, believing that revelations to outsiders are acts of betrayal to the group. But some Chinese gangs are connected with criminally influenced tongs, which provides even more incentive for young gang members to keep silent.

The general characteristics of Asian gangs also make it difficult for researchers to penetrate this population. In comparison with other ethnic gangs, Asian groups tend to have very low social visibility. For Asian gangs in San Francisco, territorial issues are associated with the extortion of certain community businesses (Toy 1991). Defending one's turf and hanging out in the neighborhood are not central concerns for Asian gang members.[5] They also do not typically identify themselves with any special clothing. Moreover, some Asian groups, such as the Vietnamese youth gangs, are noted for their tremendous physical mobility (Vigil and Yun 1990; Chin and Furillo 1991).

Finally, immigration status and language capabilities can make it difficult for researchers to access members of both the Asian and Hispanic communities.

Resolving These Issues. Given these methodological issues, where does one start? How does one gain entrance into these ethnic communities? Some ethnic gang studies have taken a community-based collaborative approach whereby the research team includes homeboys and academicians (Moore et al. 1978; Vigil 1988; Hagedorn 1988). Working jointly, the researchers try to completely immerse themselves in the youth gang's subculture and its neighborhoods. This allows them to establish rapport with gang members and community residents and alleviate suspicion and fear. Although this approach is well suited for studying small numbers of ethnic gangs and their communities, it could potentially become problematic for studying larger numbers of gangs (e.g., heightening existing opposition between gangs, experiencing budgeting and time constraints of a research grant).

The Homeboy Study is concerned with capturing the point of view of a diversity of ethnic gangs; this includes comparisons within as well as across ethnicity. Because this study is broad based and comparative, the methodology differs from other recent ethnic gang studies. Unlike studies of Moore and coworkers (1978), Vigil (1988), and Hagedorn (1988), it did not have the extent of prior contact with the ethnic communities under study. These studies emerged out of existing community-based research or social service programs and consequently were well situated in specific ethnic neighborhoods.

In comparison, the principal investigator of this study had worked previously in San Francisco's Hispanic community in conjunction with a drug prevention program and, through his ethnographic research, had developed contacts with several gangs in this area. But because the parameters of all the major ethnic gangs in San Francisco were unknown, the author and colleagues first contacted the police gang and narcotic units and obtained information on the known groups in the city—gang name, ethnic composition, territory, number of members. This identification process served as a starting point for the project's fieldwork. To ensure the validity of interviews and the safety of the staff, we have not relied on interview referrals from law enforcement or juvenile justice authorities.

Fieldworkers and interviewers are a critical part of any research process. They represent the project in the community and in many ways help legitimize it. Taylor pointed out that race was a significant consideration in recruiting his research team to study in the African-American community because non-African-Americans were perceived as unwelcome outsiders (Taylor 1989, p. 31). But as his study and others (Moore et al. 1978; Hagedorn 1988) have shown, the research team not only should be able to identify ethnically and culturally with the gang members, but also should be well connected with the various communities.

As described earlier, there are few minority researchers in this field of study, and this became clear in the attempt to locate trained ethnic fieldworkers. Given the difficulties with finding this type of staff, it was decided to recruit persons who had extensive knowledge and experience in the various ethnic communities but were not necessarily trained in qualitative methods. Although they had diverse backgrounds, all were well connected in the African-American, Hispanic, and Asian communities. For example, two of our Latino fieldworkers knew and were well known in the Hispanic community. Both had extensive contacts with social service agencies and had been street outreach workers for a community health project. The African-American fieldworkers and interviewers also had invaluable contacts. One had several personal contacts, having formerly lived in a housing project dominated by a well-known gang. He also had previous research experience interviewing crack users in the African-American community for another research project. Another African-

American interviewer had developed extensive professional contacts, having worked for many years in several housing projects and community agencies. Both Asian staff members grew up in Chinatown, worked with a large Asian youth drug prevention project, and previously interviewed Chinese gang members.

Once fieldworkers and interviewers were located, intensive training sessions were conducted on the study's goals, location strategies, interviewing techniques, data instruments, confidentiality issues, coding and editing procedures, and validity concerns. Practice sessions were also conducted.

Gender does not appear to affect the quality of interaction with gang members, although the project's African-American female interviewer indicates that older African-American gang members are receptive to talking with her because "she has that grandmother image that these youngsters greatly respect."

"Street smarts," including knowledge of street jargon, helps legitimize the interviewer's status and also facilitates communication and interaction with the respondent. One of the study's fieldworkers describes the importance of "being aware":

> Man, you have to know what's going on with the guys that you are interviewing. The interviewer needs to be able to pick up on those issues. You have to constantly watch their behavior. I was interviewing a guy who kept telling me, "No, man, I'm not doing no drugs," and his partner in the other room kept hollering, every 20 minutes, "Hey, narcs are cruisin' outside."

The ability to converse in Spanish has been important for interviewing Latino gangs whose members included recent immigrants. One interviewer has been able to quickly adapt to the respondents' language preferences. Thus far, interviews with Chinese and Vietnamese adolescents have been conducted in English. Their preference for speaking English is not surprising; youth workers of community-based agencies in the Asian-American community indicate that many immigrant youngsters prefer to speak English at all times, even when their native tongue predominates at home. The reasons for their preference are unclear but may be related to identity and assimilation concerns.[6]

Once turf areas had been identified and the research team had been trained, the research team was interested in getting a better sense of what was happening on the streets. We wanted to establish and, in some cases, verify the existence of certain gangs and also to obtain firsthand information on the nature of group and individual activities, especially drug sales.

Consequently, the principal investigator initiated the observational process, and the fieldworkers conducted systematic observations of turf areas in the African-American and Latino communities. These two communities were relatively self-contained, and boundaries were well defined.

The fieldworkers have continued to observe different groups and their activities in these areas, even while members are interviewed for the social survey component of the study. Moreover, the project has developed ongoing relationships with three Latino gangs. Our fieldworkers' ability to engage these groups was very likely related to their ties in the neighborhoods and housing projects and to the consistent contacts made with community agencies. The initial observational process was similar to Taylor's (1989) "surveillance approach." But as he cautions, once his investigative team verified the existence of and acquired information on the group, its first attempts to engage gang members were rejected. His team eventually was able to break the omerta when the gang was thrown into confusion from a Federal investigation (Taylor 1989, p. 37).

By contrast, the Asian-American community was scattered in various sections of the city, and there were initially neither public turfs identified for Asian gangs nor public areas used in drug transactions.[7] Key informants indicated that drug sales often occurred in residences and through pickup-and-delivery systems. Consequently, field observations for this population were not conducted during the early stages of the project. As the study progressed, observations of public areas were begun when one of the Chinese fieldworkers learned from key informants of a location where many youngsters congregate and sometimes get recruited into a gang as well as a few bars where drugs are sold. Overall, Asian gangs and drug sales have been less publicly visible in the community compared with other ethnic neigborhoods, which has limited the ability to conduct field observations of these groups.

Once the fieldworkers started the observational process, the primary focus turned to identifying effective location strategies so that interviews with individual gang members could begin. Several location strategies were identified: (1) staff members' personal contacts, (2) community agencies' referrals, and (3) other locators' contacts (i.e., individuals who are not necessarily homeboys but are well connected to the community). And from these three sources, we anticipated a fourth (and, in our view, very important) location strategy involving the development of chain referrals by homeboys themselves (i.e., other homeboys refer their peers).

Shortly after the interviewers started accessing the groups and interviewing individual gang members, it became clear that each ethnic community had different location strategies. In the African-American community, the research team members were able to initiate interviews from their personal contacts.

This pattern quickly shifted, and other gang members began referring their peers. The interviewer in this community has found that 15- to 16-year-old teenagers are sometimes skeptical of the interview, even when their peers refer them or when the interviewer knows them personally. When this skepticism occurs, the interviewer adopts the book approach and reassures them of the confidentiality of the study. Overall, gang member referrals remain the dominant location source in this community. Hagedorn was also able to establish a chain referral system among the "top dogs" of Milwaukee's African-American and Hispanic gangs and had responded similarly to gang leaders' skepticism, stating a preference for using street names or initials of other group participants rather than real names (Hagedorn 1988, pp. 32-33).

In contrast, community-based agencies provided the starting point for groups in the Latino and Asian communities. In the former community, one of the Latino interviewers personally knew some homeboys and was able to initiate interviews in this way, but the research team members relied mainly on their personal and professional contacts with two community agencies. At one of the organizations, the principal contact was a homegirl who provided invaluable contacts and referrals. With regard to the two agencies, each provides services principally to one specific group of homeboys; these two homeboy groups are rivals. One of the Latino interviewers has been sensitive to the opposition of the two groups and has tried to interview a certain number of members from each group. This helps avoid offending both the members and the groups. These safety precautions must be underscored; the interviewer indicates that, "our community is so small that word gets around fast. People talk. A particular group may have a common friend with the enemy."

As the Latino homeboys became familiar with the study and our interviewer, they were increasingly willing to refer other homeboys. Also, homeboy referrals were facilitated in the Latino community by tapping into the opinion leader who carries a great deal of weight in the group.

Although the team's approach in the Latino neighborhood can be characterized as a community-based strategy, it differs from Moore and colleagues' (1978) research, which developed out of a preexisting collaborative advocacy effort between pintos and academicians. In their study, many of the project staff members were gang members who had extensive ties in the three barrios under study.

In general, the Asian community has been more difficult to access than the African-American and Latino communities. The project's Asian research team initiated interviews with the assistance of their personal contacts at two youth-serving agencies in the Vietnamese and Chinese communities. The principal contact at the Vietnamese community center has numerous personal contacts, having formerly been a gang member. Although the study has several contacts at the Chinese community agency, one has been especially invaluable in legitimizing our interviewers. This referral source works extensively with members of all ages and from several different Chinese and Vietnamese groups and, most important, is well respected by them. A personal connection is important for targeting this population, or as our referral source puts it, "you know Asian kids, they don't trust you at all if they don't know you."

These community agency contacts have been the principal referral sources for accessing Asian gangs. An independent locator has also been a vital connection for making contact with several Asian groups, and interviewers have pursued their personal contacts as well. It has been especially difficult to obtain referrals from other Asian gang members.

Although community agencies can provide a useful starting point for gaining access to ethnic gangs, referrals from this source should be closely monitored to reduce the potential for bias. Researchers should have a thorough understanding of the agency's history in the community, philosophical orientation, program activities, and clients served. Some agencies tend to focus their efforts on younger members, finding that older adolescents and young adults are more difficult to engage. Similarly, agencies sometimes concentrate on less serious cases; in these instances, the probability of intervention is greater than with "hard-core" cases. Some community agencies deal only with certain kinds of cases (e.g., school referrals) or, as discussed above, only one specific group of gang members.

Although paid locators can facilitate access to the target population, researchers must be aware of and guard against potential problems. For example, in this study, some locators were trying to "get a cut" from the monies paid to the interviewees they referred. In a few cases, interviewers quickly surmised during the interview that the paid locator had coached the respondent on what to say. Finally, a locator may try to monopolize the position of being a referral source. We encountered one locator who was unemployed and who wanted to be the sole referral source for certain groups in his neighborhood. He instructed the study's interviewer not to ask the interviewee for referrals nor to reveal that he was receiving a locator fee. If he had been allowed to maintain such a position, he would have prevented the development of other referral chains.

Some interviews are initiated by fortuitous events (Biernacki and Waldorf 1981). For example, our interviewers were sometimes walking in the neighborhoods with someone who knew and spotted potential respondents. In the Asian community, the interviewer is able to pursue these interviews on the spot. But the Latino community encompasses a small area where "everyone knows what's up." Our staff person refuses to conduct on-the-spot interviews and prefers "appointments only" because he wants to make it clear to the various homeboy groups that he is not involved in their disputes. Taylor's (1989) "break" provides another illustration of how researchers penetrate sensitive populations.

The Homeboy Study also has found that interviews with former gang members are especially instructive and offer a social historical context for understanding gangs in ethnic communities. Unlike some younger members, former members can provide details and insight into the history of particular groups, the reasons for prior and existing intergroup and intragroup conflict, and transformations of both the groups and the neighborhood.

Hitting the Streets: Interviewing Homeboys and Validating Their Responses

Once researchers locate and access a target population, another set of issues must be addressed. First, finding a suitable place to conduct the interview is no small matter. Originally, the project planned to have a place to do the interviews, but this proposition raised numerous liability and safety concerns (e.g., members from two opposing gangs accidentally meet with each other). Consequently, several community agencies were contacted and paid for providing space to do the interviews. When we selected the community agencies, we were especially sensitive to the local dynamics. The research team also has used other sites, depending on the circumstances of the individual interview.

Because the Latino community is small and the two primary referring community agencies work with rival groups, project interviewers have located a community center that is considered by the gang members and residents as neutral territory. This "safe place" is the primary location for interviews with Latino homeboys. Taylor (1989) relied on several sites located in various parts of Detroit to conduct group and individual interviews with two "corporate" gangs and four "scavenger" groups.

When the project's contacts at the Asian community agencies refer a gang member, the research team usually conducts the interview at the center. In a few instances, however, the gang member feels uncomfortable in a social service environment and wants to avoid meeting at the agency. The interviewers work with the youth to find an alternative site. Interviews with Asian gang members also have been carried out in such settings as the member's residence, a peer's home, a car, the beach, a park, and coffee shops.

Our African-American interviewers have relied on several interviewing sites, including a neutral community center, gang members' residences; laundromats, and cars.

A second logistical issue concerns scheduling interviews, specifically with Asian gang members. Our experience with these youth has been particularly instructive. Asian cultural traditions strongly emphasize group identity, and in this study, the members of certain groups wanted be interviewed together. However, group interviews were not appropriate given our research interests as well as possible methodological problems associated with this approach. Instead, we scheduled their interviews back to back so that they could come together but be interviewed separately. They were willing to wait for each other even if it meant sitting around for several hours.

Another consideration in conducting interviews with ethnic gang members involves the data collection instruments. Researchers should adjust the interview schedule to reflect each ethnic group's and individual's language capabilities, their cultural terminology, their ethnic experience, and their generational status. For example, in this study, one Latino interviewer has translated the data collection instruments into Spanish for interviews with many of the Latino homeboy respondents. Minor adjustments in terminology can also be effective for establishing rapport with the respondent during the interview process. For example, the same Latino interviewer cites the use of several such terms: "maton" for PCP, "chiva" for heroin, and "leyno" for marijuana joint. Our Asian interviewers refer to "dai-lo," which is a term Chinese gang members use when referring to the leader. The interview schedule for Asian gang members has been expanded to explore the relationship between the youth groups and the tongs and gang involvement in such activities as gambling and extortion.

During the interview process, fieldworkers and interviewers should be aware of local dynamics for both research and safety reasons. As in the case of the Latino interviewer described above, a researcher must make it clear through words and actions that he or she is neutral. Researchers should also know what is going on with the different gangs as well as in the community. When the "heat's on" and groups are "gang banging," interviews with opposing homeboy groups should not be scheduled. The staff may also have to take steps to avoid being put in a bad situation. For example, when a fieldworker or interviewer is walking with a homeboy and they encounter "the enemy," the worker leaves the scene immediately.

Finally, fieldworkers and interviewers should be concerned about the validity of gang members' responses. Moore and coworkers (1978) tried to alleviate this potential validity problem with a community needs-oriented approach, collaborating with barrio members. In comparison, our orientation is based on a combination of community contacts and a book approach. Undoubtedly, there will be instances in which an individual will try to create stories to obtain the financial honorarium, or members of the group will try to get their story together prior to individual interviews. Project staff members have tried to sensitize interviewers to the possibility of lying, especially regarding drug sales, and have questioned them regularly about the validity of the homeboys' answers.

As did Taylor (1989), our African-American interviewer finds that younger respondents tend to exaggerate and brag about their activities. However, she also contends that older members tend to minimize or downplay their activities. In either case, these members are frequently tested on the spot with "reality checks." As this interviewer states, "I check out their answers with them. I test them. I don't let them get by. They just want to see if you are going to believe them." Another method for validating answers on the spot involves rephrasing and repeating questions during the interview.

The truthfulness of respondents can sometimes be checked through staff discussions and observations. Staff members have sometimes conducted interviews with gang members who are known personally by another staff member. This study's fieldworkers have found a few instances in which the respondents' answers to questions regarding certain activities were inconsistent with their field observations.

The validity of gang member responses sometimes becomes clear after several interviews with a group are completed. For example, after doing a number of interviews with two gangs, we reviewed all the completed interviews and questioned their reports about drug sales. No one admitted to selling. We continued to interview members of the two groups, and eventually some respondents reported sales by the groups. Later, the field observer also was able to observe drug sales by people he had interviewed and other gang members. We also made contact with some homegirls of the two groups, and they reported drug sales by both groups.

CONCLUSION

This discussion underscores the importance of an ethnic-specific focus in studying gangs and describes some of the major tasks, issues, and methods for accomplishing this. An ethnic-specific focus in studying gangs is critical for several reasons. First, although ethnic-specific research on gangs is sparse, existing studies suggest that there are major differences in the development, activities, and organization of varying ethnic gangs. Jackson has recently recommended a comparative approach: "Research should look at the variation in gangs and gang behavior across ethnic lines, since there is some evidence of important differences between Asian, Black, Hispanic and white gangs" (Jackson 1989, p. 323). Second, these differences are important to understand from a policy standpoint. The experiences and concerns of each ethnic community and its members are diverse; a culturally appropriate approach is essential for effective policy and program planning.

NOTES

1. Although Skolnick and coworkers' (1989) study is based on 39 interviews with gang members and in some respects provides the "gang perspective," their results must be interpreted cautiously because their sample was drawn from self-selected young males who were incarcerated in juvenile and adult correctional facilities and who were first approached by prison authorities. Moreover, Skolnick and colleagues interviewed the respondents in these correctional facilities. Several potential biases are associated with this methodological strategy, including official designations vs. self-designations of gang affiliation, coercive vs. voluntary participation, and respondents' veracity given present circumstances (i.e., incarceration).

2. Vigil and Yun's (1990) study of southern California Vietnamese gangs includes 17 interviews with youngsters who were incarcerated for gang-related offenses.

3. Homeboy affiliation in California is first tied to region (e.g., north/south) and then to city. These regional affiliations are carried over into the correctional setting. See Moore and colleagues (1978) for the connection between pinto (i.e., convict or ex-convict) and barrio.

4. Chin and colleagues (1990) also describe some of the problems of accessing the Asian community, but they were able to gain entry into extortion activities in New York's Chinatown through interviews with victims.

5. In comparison with gangs of today, San Francisco's Chinese gangs of the late 1960s and into the 1970s had a higher visibility. These gangs had relatively well-defined turfs and hung out in public areas (Morici and Flanders 1979). However, this pattern changed after the infamous Golden Dragon Massacre in 1977 and the subsequent formation of the Asian Gang Task Force.

6. While conducting an evaluation of a drug prevention program in San Francisco's Asian community, the author attended a community forum organized by Vietnamese youth for their parents. The major issues discussed between the youngsters and their parents centered on cultural conflict within the context of a generation gap. During the forum, the youngsters talked in English about their concerns and issues, whereas parents and other elders responded in Vietnamese.

7. Although Chinatown is one of the most densely populated areas in San Francisco and is the central business district for Chinese and Southeast Asians, it represents only one of the many areas in which they reside.

Moreover, many commercial enterprises have emerged in other areas of the city where large numbers of Asian-Americans live.

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Identifying, Gaining Access To, and Collecting Data On African-American Drug Addicts

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INTRODUCTION

The desire to reduce the supply of and the demand for illicit drugs has resulted in legislative actions at the Federal, State, and local levels that impose criminal penalties on suppliers and users of drugs. Correspondingly, these efforts have also created treatment strategies for users and have established education and prevention programs for would-be users. Research efforts, on the other hand, have sought to determine how to develop and implement better treatment, education, and prevention strategies in both the drug-using and general populations.

To that end, researchers have surveyed drug users in different types of settings (e.g., treatment and prison environments) as well as drug users who were not in those settings. To a large extent, these investigations have assessed the role of racial and ethnic variables on the effectiveness of treatment, although many of them did not consider the lifestyle context of the addict (Hunt and Odoroff 1962; Valillant 1966; Dale and Dale 1973; Iiyama et al. 1976; Joe et al. 1977; Creative Socio-Medics 1977; Reed 1978; Edwards 1978-79; Linn and Shane 1979; Cohen et al. 1980; Craig 1980*a*, 1980*b*; Penk et al. 1980). Other surveys have investigated active drug users who were not in treatment in community settings and have conducted interviews with adolescents and senior high school students (Paton and Kandel 1978; Dembo et al. 1979, 1980). These studies have centered on the social and psychological correlates of drug use. However, only a few studies have used ethnographic and participant observation methods to examine various types of drug use and drug users in their natural settings (Lindesmith 1947; Becker 1953; Finestone 1957; Preble and Casey 1969; Hanson et al. 1985; Johnson et al. 1985; Goldstein 1985; Inciardi 1991; Inciardi et al. 1991; Waldorf et al. 1991).

These ethnographic studies provided a model and framework that were used by the Urban Lifestyles Project (ULP) so that contacts could be made with drug users and non-drug users in several neighborhoods in the Philadelphia metropolitan area. This chapter discusses several methodological issues associated with identifying, gaining access to, and collecting data on African-American drug users. Usually, when such issues are discussed, researchers report standard methodological concerns such as establishing the ethnographic field station, locating the sample, utilizing one or several outreach strategies, collecting the data, or discussing the necessary attributes required by the individuals engaged in the collection of data. These issues have appeared to be more relevant, whereas the more tangential issues of stress management, safety, administration of personnel, learning street language, and understanding the institutional bureaucracy with which the researcher is affiliated have received little attention in the scholarly literature. These issues, along with the more traditional ones, are discussed here.

RESEARCH OBJECTIVES OF THE URBAN LIFESTYLE PROJECT

Indepth interviews from the project's field site assessed the impact of drug use and spatial and environmental factors on decisions to execute burglary, robbery, theft, prostitution, drug dealing, and shoplifting on two groups of offenders with differing involvements with drugs. More specifically, the research aimed to determine (1) the effectiveness of environmental factors on the crime-commission patterns of addicts and (2) whether these factors continue to be effective during periods of low drug availability and/or need. If obstacles prevent addicts from carrying out their crimes, the research asks whether addicts will commit other crimes at different locations. There are two secondary objectives. The first is to ascertain the influence of drug use and sociodemographic characteristics on the development of daily activity patterns and to determine whether these patterns give rise to different interactions that provide the opportunities for crime in urban areas. The second objective is to determine the influence of environmental factors on the execution and location of crime in light of the supposed conditioning effects of crime partnership participation. Particular attention is given to gender differences in the utilization of space as well as the gender-specific roles that addicts play in crime groups. The research illuminates several issues not previously considered in extant drug/crime literature: Does drug use force addicts to disregard environmental crime prevention signals and accept greater risk to complete their crimes, or does drug use force addicts (in the face of environmental factors) to shift to different crime sites and/or crime types (crime displacement) that have lower environmental risks? Does drug use, along with sociodemographic characteristics, influence the distribution of crime by influencing patterns of activity, space utilization, and crime site selection? To what extent do the drug-using patterns of men and women influence crime group participation, and do these crime group affiliations result in different crime patterns?[1]

FIELD SITE

Even with Philadelphia's historic and colorful past, the city has not escaped the ravages of urban decline, crime, drugs, and poverty. Philadelphia's role as a regional population center continued to erode in the 1980s as more and more city residents moved to the suburbs. Preliminary results from the 1990 Census of Population and Housing showed 1.54 million residents in Philadelphia, a 9-percent decline from 1980 (U.S. Department of Commerce 1990). This decline resulted in a reduction of the city's tax base, which in turn compounded the mounting fiscal problems faced by a city with a projected budget deficit of $2.3 billion for fiscal year 1991. Unprecedented narcotics trafficking and abuse and the related problem of soaring crime rates are among the most serious problems confronting the city. Hardcore drug addiction and blatant street sales show no signs of easing. At the same time, crime rates continue to rise. The city set a record last year for murders, robberies, aggravated assaults, and other violent crimes. Police reports indicate that narcotics were involved in 50 to 70 percent of all crimes. Since 1986, when crack cocaine abuse first spread through the city, the number of violent and property crimes has risen 32.4 percent. In every police district, the volume of crime is higher today than 5 years ago. Violence against police is increasing. Since October 1989 five Philadelphia officers have been killed; none were killed in 1987 or 1988. Philadelphia leads the Nation's major cities in the proportion of drug use by those under arrest. A report issued by the U.S. Department of Justice revealed that 81 percent of males and 78 percent of females arrested during the first quarter of 1990 tested positive for drugs, most often cocaine (*Philadelphia Inquirer* 1991). Cocaine-related deaths in Philadelphia rose for the fifth straight year in 1989, the latest year for which statistics are available, to 321 from 279 in 1988. The mother of one in every six newborns used cocaine during pregnancy. At the hospital of the University of Pennsylvania, 20 percent of the women admitted in labor during 1 month tested positive for cocaine use. Drug-related arrests rose 55 percent between 1985 and 1989 (*Philadelphia Inquirer* 1991).

Within this atmosphere of increased awareness of drugs, crime, and violence, ULP established its field site in south Philadelphia. As in other projects that had established field monitoring stations, locating an area where the residents were unconcerned about project presence and identifying an area that was centrally located to a large drug-using population were overriding concerns.

The ULP site was located within blocks of the Martin Luther King housing complex, consisting of four highrise public housing buildings. One building has such a notorious and violent reputation that it is referred to as "Saigon." One long-term female resident of Saigon, who participated in a life history interview, described the conditions there and in the housing complex in general by saying [transcribed account of audiotaped life history interview (a series of four hyphens indicates deletion of unsuitable language)]:

Filthy. I mean the hallways are filthy. There's trash all over the steps—dirty Pampers, dirty feminine stuff [sanitary napkins] all over the place. You know, we got 15 stories, right. The incinerator is backed up from the first floor to the, . . . , you can't even put no trash in it. That's how backed up the trash is.

Smells like - - - - and - - - - in the hallway. Now, like say . . . if you wanna hit [of crack], right. Say like, if I'm contemplating the thought of getting a hit, right. My body goes the same as any other addict. You get that thing [take a hit of crack], you gotta - - - - ! It gots to come out! You might be just standing in the hall. You can't go in nobody house. It has to come out! You release right there, you know. You ain't gonna' hold it.

It started getting bad like, okay, this is '90, I can say '80. When . . . crack started. . . . We didn't have drugs like that then [when she was 10 years old]. You had to venture out for drugs. Stuff like that. You ain't had pushers on every corner. Pushers everywhere you look. Mothers pushing, grandmothers pushing. . . . It's just everybody selling cocaine. So, it's worse. Worse. Brothers cussing . . . you cussing your mother out. Beating your mother up if she don't give you money to get your hit and all that - - - - . You disrespecting your mom. All kind of - - - - . It never was like that. Never was like that. You still had a sense of, you know, you do respect your mother. You would dare not talk back to mother, right. That was a no-no. Naw, - - - - ! A little boy . . . my girlfriend, her son "Get the - - - - outta my face." He sells drugs. He's 15. It was a shock to me. Much as I seen and been through, - - - - - . . . still got the nerve to shock me.

[Residents shoot off their balconies] just to see if they guns working. That's part of everyday life. We used to duck. We don't duck no - - - - more. Business as usual! Don't even move unless you see a body being dragged around or somethin', and then you only move to see who got shot. "Is this my son?" "Is that my nephew?" or somethin' like that. You just sit there. Even old Miss B. just sits there. She don't even duck no more.

. . . when grow up in the projects, man, you gotta stay away from boys raping you. You got to duck gun shots and somebody getting stabbed, and then the drugs is there at you. And it was just a living . . . it was a survival for your life every

> . . . . day you woke up. Every day you woke up. Every day you woke up something was going on, something was happening. Like . . . you was always going to somebody's funeral. It's just living hell.

Many of the project's research respondents resided in the Martin Luther King housing complex, and its location relative to the field site influenced the lives of staff members in terms of parking their cars, their personal safety in the immediate vicinity of the field site, and their general safety within the field site.

In terms of the research, this location was critical in gaining access to the drug-using African-American population. Large numbers of drug users and criminals lived in the nearby housing projects. The field site was located one block from one of two subway lines and was very accessible to Center City, Philadelphia's central business district. Therefore, it was possible to interview research respondents from many different Philadelphia neighborhoods and other parts of the Philadelphia metropolitan area.

Because there was some appreciation that the community might be concerned with the presence of the project and because the community played no role in granting permission to establish the field station in the community, respondents were required to follow certain guidelines of behavior. Respondents were not permitted to loiter outside the field site and were requested to leave the field site in an orderly manner. In spite of the desire of most addicts to continue "taking care of business," there was never an incident in which it was necessary to confront a respondent concerning his or her behavior outside or inside the field site.

The field site consisted of four separate offices in a recently remodeled building that was leased by Horizon House, one of the larger drug treatment organizations located in the city. Given the description of other field locations used by past researchers, 1211 Bainbridge Street was luxurious with its reception area, freshly painted walls, carpeted floors, functioning bathrooms, and air-conditioning and heating system—all of which were located within the confines of another organization that tried to meet the needs of the drug-using population. The location within this complex also helped to ease the fears of neighborhood residents about the way the research project might contribute to increasing drug use or crime in their area. The location also provided research staff members with additional safety because they were not operating in isolation or seclusion. The close proximity of the field site to a treatment facility did not bias the selection of the research sample given the particular services provided at this site. From this location, Horizon House staff members were responsible for locating temporary housing for homeless respondents and coordinated community outreach in other high drug-use areas of the city;

the facility also offered services to dually diagnosed patients who resided onsite. Therefore, for many drug users who used this facility, these services provided temporary relief from their homelessness and offered a respite from their addiction. The project's research objectives were made clear to the staff members of Horizon House, and when they believed they had an eligible research respondent, both the case manager and the project's field coordinator discussed whether the respondent was eligible for inclusion in the research project.

IDENTIFYING AND GAINING ACCESS TO RESEARCH RESPONDENTS

The task for any researcher is to transform a funded research proposal into a reality. The proposal serves as a guide that steers the project and keeps the researcher on course; however, the research landscape is fraught with unanticipated obstacles and is continually being redefined. Consequently, field research is not composed of a set of neat procedures, but represents a social process between the researcher and the research respondent (Hammond 1964; Shipman 1976; Bell and Newby 1977; Bell and Encel 1978; Shaffir et al. 1980; Roberts 1981; Burgess 1984). The nonparticipant observer role and the participant observer role have been discussed as they relate to drug abuse (Power 1989). It is this social process between the researcher and the respondents as well as the unexpected situations that occur that require the researcher's creativity, patience, and perseverance. The first stage in the process requires making initial contact with the study population. For ULP, finding the initial pool of research respondents was simple, because the field site was located where there were many crack houses and drug users. However, maintaining the flow of respondents required considerably more effort. "Snowball sampling" (sampling using referrals) has been one way to handle the sampling problem when the target population is small and widely scattered. This strategy involves locating the initial members of the target population who then are asked to identify other members of the drug or criminal subculture who are then interviewed (Welch 1975). Biernacki and Waldorf (1981) have discussed the problems encountered using the method in a study of former opiate users. At the Philadelphia field site, ULP's outreach workers proved to be an important link between the drug subculture and the field site.

Field Outreach Workers

The project employed outreach workers who were recovering addicts; by virtue of their prior associations with drugs and other drug users, these workers were able to recruit drug users into the project. It was important that the outreach workers have a substantial period of sobriety before their employment and adequate social support networks to reduce the possibility that they would resume their drug use.

A successful outreach worker must be able to interact with members of the drug subculture and members of the "legitimate" world. In that regard, the outreach worker must have the "right" image in terms of speech and dress and also be streetwise and streetsmart, with a well-established reputation in the neighborhood in which he or she works. By allowing the outreach worker to discuss his or her knowledge of the reputations and histories of various neighborhoods, the recruitment effort can be aided by utilizing the life experiences of a streetsmart outreach worker. It is also possible to review old associations that were established when the individual was an active user of drugs. These associations may reveal an "old head" in the community who might be used as a source to identify younger drug users.

One advantage of using outreach workers as recruiters is to increase the likelihood that research respondents will meet the eligibility requirements of the study. If the researcher trains the outreach workers sufficiently, they will understand the dangers associated with contaminating the research effort with individuals who do not meet the eligibility requirements. Therefore, it is imperative that these issues be discussed frequently with the outreach workers throughout the life of the project and that the outreach workers understand their important role as the project's gatekeepers. Typically, gatekeepers are individuals in organizations who have the power to grant or withhold access to people or situations for the purpose of the research. Unlike the usual situation in social science research in which the researcher gains access to an organization (Bogdan and Taylor 1975), in drug research, it frequently is necessary for the research project to have its own gatekeeper. The gatekeeper must have the ability to reject individuals who do not meet the project's research requirements and defuse situations that have the potential of becoming volatile when rejected respondents protest. The gatekeeper must also be streetwise, have the ability to look beyond what is being said to determine what is true, and have the ability to develop probes to reveal whether an individual is an acceptable respondent. The gatekeeper must be aware of certain cues, both verbal and physical, that might suggest any serious behavioral abnormalities that could place other staff members in jeopardy. Therefore, the gatekeeper's role involves not only safeguarding the integrity of the sample but also reducing the likelihood that injury might occur in the field site.

It is also true that a good outreach worker will train both an experienced and a novice researcher in the current ways of a constantly changing urban landscape. However, the required attributes and traits that make for successful outreach workers sometimes seem antithetical. Using individuals who are in recovery brings with it a set of issues that few members of the academic community have had the opportunity to consider because many come from middle-class or working-class families with middle-class aspirations. Therefore, some researchers may bring to the field a set of cultural expectations and values that are different from those of the individuals who may assist them with their research efforts and different from those of the individuals whom they interview to gain an understanding of the various aspects of the lives of drug users.

Some researchers may expect that those who labor with them will care about their work with the same enthusiasm as the research staff, that they will grow to appreciate the value of the research and the special talents they possess, that they can be trusted, that they will arrive at work on time, that they will not constantly be driven by a desire to "get over" (take advantage, accomplish aims with little or no effort) or display other "dope fiend moves," and that they will go where they are supposed to go and put in a good day's work. These may be the expectations and hopes of the researcher, but the continual struggle is the development of shifting strategies that are devised to change individual coworkers into a team of individuals who care about each other. When a human bond is established among staff members, a bond with a purpose, all members care for and respect each other and consequently will value the mission that they all share. The process is not immediate, and the manner in which the bond is created is difficult. The task and the struggle are to take the disparate characteristics of a recovering outreach worker and an interviewer and recognize those traits that assist the project in its mission and, at the same time, discourage the negative personality traits that are divisive and counterproductive to the research effort. This is not taught in graduate school; perhaps the only roadmap is derived from the lessons of living life.

Consequently, for ULP, it became important to establish a system of controls to monitor the activities of the outreach worker and the interviewer. The experience in the field quickly made it apparent that it was necessary to adopt strategies and structures with clearly defined and consistent rules and expectations of behavior. The academic's role as a university professor is based on autonomy and independence. Expecting that these sets of conditions can be transplanted to the field is a critical mistake that will jeopardize the researcher's control over the individuals he or she supervises and endangers the quality of the data obtained from the research respondents. It is a good idea for the researcher to leave behind the university and its set of unfolding social processes and acquire a mindset that prepares him or her for the concrete jungle littered with crack vials, dirty needles, and unwashed flesh.

Research Participants as Informants

There are many parts of the subculture that recovering outreach workers are reluctant to enter. Irrespective of the length of sobriety, many recovering addicts are hesitant to go into social situations that will place them in direct contact with active drug addicts. The recovering heroin addict is reticent about entering a shooting gallery to witness needles being inserted in arms and blood being drawn to be mixed with the heroin that will bring about a "nod." The recovering crack addict is disinclined to venture into a hit house or crack house to be a silent observer of crack rocks filling a straight shooter or a pipe and the cloudy smoke of crack accumulating in a pipe. These images endanger sobriety, and environments that active users frequent may be off-limits for many recovering addicts. Therefore, it may be more appropriate to use active addicts as referral sources than to use recovering outreach workers.

Active users have access to parts of the subculture that are not accessible to staff members. The field site was always a place where research respondents would hang out or those who had finished all phases of the research would return to visit staff members. After relationships were established with many of these individuals, it was possible to recruit some of them to enter these settings specifically to recruit research respondents for the project. One important obstacle to the use of research respondents as informants or referral sources is that it is difficult to find those who can be trusted. The researcher must always remember that these are addicts and that much of their existence has been devoted to developing the art of manipulation and being whatever is required of them, when the need arises, to "get over." Consequently, using these individuals is charged with the possibility that just to obtain the small fee they receive for each referral, these informants will refer potential respondents who may not be eligible.

The pool of potential research respondents also can be increased by distributing flyers in targeted neighborhoods and using the classified section in neighborhood newspapers to announce the need for research respondents. In terms of flyers, the central question is where to direct the outreach effort. It is important to be familiar with the ebb and flow of addicts, the location of shooting galleries and crack houses, and other locations where addicts and criminals are known to congregate. Moreover, the outreach effort cannot be restricted to daylight hours, but outreach workers should be comfortable with the night scene, particularly if male and female prostitutes are target subjects.

An additional concern is the timing or initiation of the outreach effort. Distributing flyers at a time when interviewing slots are filled for a week or two might result in flooding the field site with respondents and scheduling interviews too far in the future. Given the chaotic lives of these respondents, it is sometimes difficult for them to keep appointments that are made too far in advance. The ideal strategy is to interview respondents as soon as possible. Any delay results in the individual simply not returning to the field site to be interviewed. Placing newspaper advertisements announcing the need for research respondents was less successful.

The field site's location should not necessarily be viewed as permanent; researchers must be receptive to the idea of reestablishing the field site in some other neighborhood if the number of referrals begins to diminish in one location. Also, depending on whether the staff and the researcher believe that staff members can operate with little supervision, using several satellite interviewing sites also may aid in data collection.

Eligibility Requirements and Maintaining Sample Integrity

As any researcher who has worked with this population can attest, money and acquiring money to maintain drug use are recurring concerns. Therefore, any opportunity to get money that does not involve the dangers of crime is compelling. Research projects that offer payment to respondents in exchange for information are easy targets for a wide variety of scams. In a project such as ULP, where the research sample is stratified by age, it becomes important to safeguard sample eligibility requirements. No matter what measures are undertaken to protect these requirements, they are learned fast by respondents, who quickly will become the required age. Age is a difficult requirement to validate, and given respondents' concerns associated with confidentiality, it is not always possible to request identification. Moreover, members of the drug and criminal subcultures have almost immediate access to sources that could furnish fraudulent identification. To some extent, observant field workers can identify individuals who make false claims, and the interview instrument can be devised to identify others by distributing age-related questions through the interview to verify age. This strategy proved to be invaluable in maintaining the reliability of the age variable in the research project.

COLLECTING DATA

Merton (1947) stated that "informants will not hesitate to make certain private views known to a disinterested outside observer—views which would not be expressed were it thought they would get back to management; the outsider has 'stranger value.'" The idea and the value of the outsider are recognized in social science literature (Merton 1972). Neutrality is central, and the belief that it is the research respondent who has the information or who is the expert is critical to the research effort. The researcher is merely a medium through which the respondent's experience and knowledge can be woven and conveyed to others. This notion of outsideness appears to stimulate more uninhibited responses from respondents and allows objectivity to be maintained. However, although the researcher must realize the importance of the role in the abstract, in reality some identification with the research respondent is also important. This was revealed vividly early in the field.

On one occasion, some potential research respondents arrived at the field site to make inquiries as to whether they were eligible to participate in the research project. Because they were waiting for their "boss" (the author) to arrive to make decisions as to which respondents would be selected, to take only the better candidates, the staff members instructed the research candidates to wait. When I arrived, I walked into the reception area, and one of the staff members said, "There he is," and I noticed a reaction of surprise on the faces of these 12 to 15 African-American men and women as they sat around the reception area. They were surprised that I am also African-American. Later, when I interviewed one woman who had been in the room that morning, she told me how proud she was when she looked up and saw me, an African-American man, entering the room. To be sure, I was an outsider, but I was also one of them, and because I was, I also belonged to them. A sense of trust developed between us, and I was affectionately called "Doc."

Respondents would ask, "Why are you doing this?," and they were never given the simple explanation derived from the project's purpose. Rather, it was important to communicate the social value of the research and their value as individuals, that is, people who led lives that few Americans were given the opportunity to witness.

As a native of North Carolina, I was a novice to the "mean streets" of Philadelphia, even though I have spent the past 10 years in the Germantown section of the city. Some respondents assumed that it was their responsibility to teach me the ways of the streets. It is important to observe and nurture with the understanding that, if too much rapport develops, acceptance grows to a point where certain penetrating lines of inquiry might have to be dropped. However, the novice researcher can use this status to his or her advantage and uncover information by simply asking questions. These are questions that come from not assuming to know the responses because the novice is too "green" to know what the possible range of responses is in the first place. In some ways, this is a great advantage if used properly and applies to field staff members as well as researchers. A researcher who is not trained in the ways of the streets can use more seasoned staff members as tutors. When the ULP field site closed, one of the outreach workers remarked that he thought I had grown up in a cave. He said, "Where did this man come from? I thought you grew up in a - - - - [expletive deleted] cave or something. But you asked questions, lots of questions, and learned quick."

To workers in the field, it became clear that research respondents, just as others engaged in any social interaction, value honesty. This is particularly true of streetsmart drug users who have learned all the social cues associated with surviving the streets (Anderson 1990). It is not enough to inform respondents of the nature of the research. The researcher must communicate the value of the research and the importance of the respondent's role in the research. At the same time, the researcher must be willing to demonstrate genuine concern for the respondent and his or her life and remember that the respondent is still a part of the human family even though the respondent communicates accounts that deeply trouble the researcher's own sense of humanity, integrity, and justice. Even when a respondent is interviewed in a small room and the respondent's smell is so acute that the researcher almost retches from the odor of unwashed clothes and flesh and it takes 2 hours for the smell to dissipate, the researcher cannot allow that situation to prejudice his or her perception or treatment of the respondent. Moreover, it is important to communicate to other members of the staff the importance of respecting the human condition. This is particularly true of some members of the recovering community who have forgotten or cannot remember what it was like when they were at their very worst in their own addiction.

Of critical importance for the outreach worker and other staff members is to befriend individual contacts made on the street or in the field site. The field site must take on the character of a safe place, a haven away from the streets, a place where one can talk without being judged or punished. Whyte (1955), Anderson (1990), and Liebow (1967) all have indicated the importance of befriending an individual or a group of individuals who provide invaluable support to the research effort.

Above all, research respondents must believe the promise of strict confidentiality. The assurance of strict confidentiality should be stressed at the initial contact with the respondent in addition to several times during the interview. This helps to relax the respondent, and once rapport is established, most respondents love to discuss the details of their lives. Members of the middle class have at their disposal any number of outlets if they are disturbed or troubled. For the most part, having access to mental health practitioners is a luxury of middle-class and wealthier members of American society, and few poor people have the good fortune to have a neutral individual to listen and not judge them. Therefore, there is a tremendous need for members of drug and criminal subcultures to discuss and reflect on the meaning of their lives with someone who will spend the time to listen. Many of the project's lower-class participants found the interviewing process cathartic, and it became somewhat clear that the multiple contacts with some of the research respondents had a therapeutic effect. Many ULP respondents asked for referrals to treatment programs when their cycle of interviews was completed, or many of them returned to the field site weeks after completing all their interviews to inform the staff that they had just finished a treatment program. When they were asked why they had entered treatment, they replied that the interviewing process had made them think about what they were doing. Somehow, the six interviews that were conducted with these respondents—interviews that required a respondent to recount his or her week—focused the respondents' attention on their lives to such a degree that they decided to make some changes. The objective was not necessarily to steer the research respondent to treatment, but the rapport that was established with project members caused some respondents to reassess their lives.

Interviewers

The interviewers play a critical role in data collection. The impact of the age and racial attributes of the research/interviewing staff has been reviewed in the literature. Phenomenological social scientists, minority social scientists, and racial and ethnic minority leaders have criticized the use of the social survey as a data gathering device. This criticism has necessitated the use of innovative ways of conducting surveys. One strategy has been for senior researchers to form collegial relationships with young African-American and Chicano urban residents who work as interviewers (Myers 1977). The effect of the sex of the interviewer on data collection has also been observed in connection with sensitive questions. Darrow and colleagues (1986) demonstrated that, at least for patients with acquired immunodeficiency syndrome and homosexual men, the sex of the interviewer and the place of interview had little influence on the answers obtained. However, Warren and Rasmussen (1977) demonstrated that the gender and attractiveness of the researcher can be important in obtaining access to data.

ULP used several different kinds of individuals, with differing personalities and life experiences, as interviewers in Philadelphia. Some female respondents who engaged in prostitution as a money-making activity were less likely to feel comfortable discussing their sexual exploits with male interviewers. Some male interviewers found it very difficult to discuss the sexual exploits of drag queen street hustlers, and in some instances, some of the street hustlers were more comfortable with female interviewers. Some male interviewers also felt uncomfortable when a gay male street hustler made what one interviewer perceived to be sexual advances. Therefore, gender and sexual orientation were complicated issues that were worked out between interviewers and respondents and required the careful observation of the senior researcher.

As for race, the project employed both African-American and majority members as interviewers. Few African-American respondents had difficulty being interviewed by majority members, but there were instances when a respondent requested to be interviewed by an African-American. However, race did not appear to be an important concern. What appeared to be of greater importance was the overall character and climate of the field site. For example, many of the respondents who were interviewed lived or grew up in the same neighborhoods as some of the interviewers. They knew the same people and discussed people they knew in common. Therefore, even when a stranger or new respondent was sitting in the reception area, the stranger overheard these conversations and, consequently, became more relaxed and reassured that the field site and staff members were not the extension of some law enforcement agency. Therefore, the interviewer was better able to establish rapport with research respondents given their commonly shared acquaintances.

On one occasion, a respondent told a male interviewer that she had stolen rent money from her girlfriend's mother's house. When another interviewer, one who knew the girlfriend and her mother read this account, she believed the account to be fictitious. When the respondent returned to the field site, she was confronted, and the female interviewer was able to uncover the "real" story associated with the respondent's criminal activity, an elaborate scam that involved taking orders for clothes from residents of the housing complex and paying for these clothes using phony checks.

There are many reasons for respondents to fabricate and to omit important details. A good interviewer is able to separate, to some extent, fiction from truth as well as obtain details that are difficult for the respondent to discuss. For example, one respondent discussed, with great difficulty, his mother's addiction [transcribed account of audiotaped life history interview]:

> The furniture was gone. The electric was off; we had candlelight. Eventually the water was cut off, because of the checks she wrote, and they wouldn't accept anymore. Her pride is just too-too, you know. I wasn't gonna let her stay there by herself. We started washing in alcohol [in order to take baths], you know. She said that's good for you anyway, washing in alcohol. She always had some kind of saying for doing what she was doing.
>
> I could see the hurt in her. I could see the hurt, the humiliation, the, uh. Like I said, she was always a strong, independent person, and this crisis deteriorated her at that time, and I can feel and see it, you know. Being part of her, you know, more than my brothers and sisters, because of the relationship we have, the tightness, I would try to do things, or she'll say something or make a statement and I would agree with her only to make her feel better about it, you know. But uh, I wouldn't let her know how hurt I was about that situation.
>
> . . . Yeah, yeah. And that was embarrassing. That the neighborhood starting, you know, the house that I use to be proud and keep the door open, I didn't do that anymore. So, all these things that was hurting me, I kept it in. I had nobody to talk to about it anyway. I didn't want to talk to anyone about

> it. I didn't want her to know how I feel 'cause I know she always felt . . . she already felt bad, and, you know, everything else, you know.
>
> . . . The embarrassment. Wondering if other kids go through that—Are there any kids my age going through that type of situation with their parents. Uh, making excuses, you know, okay, like when [friends came over]. I had stopped my company from coming over. Once in a while when one of them did come over, and if something wasn't normal or something was gone, I use to make excuses for it or something like that. Before, I use to let 'em come in and we sit and play records, but after that, we either sit on the steps or we'd go out in the park, or to the playground or something.

Another respondent relived his brother's murder when the respondent was 12 years of age and his brother was 14. He said [transcribed account of audiotaped life history interview]:

> He had got her pregnant [his brother's girlfriend], and like she tried to milk him. Well, on a slang tip, that's like try to juice my brother for money, because she getting ready to have a baby. My brother gave her $250 to get an abortion. She said she ain't want it. So he kicked her in the stomach so she lost the baby.
>
> She told her family and her family told like other partners of their group and what not, you know. OK, so they came down to party. This was . . . up Germantown. So anyway, everybody seen them at the party. OK. We saw 'em, you know. I was a young buck, but then still I was still part of the gang. Because that's my family, like everybody in my family, like from like 13 on up to 17 was in the gang. So more or less I was in there. Because if my family fighting, I'm gonna fight too. OK, so, when I saw my brother fighting, I got in it. So the dude he pulled out a gun and shot my brother twice in the head, and my brother fell.
>
> I saw him bleeding out the head. He had two holes. He had one like over top his ear and he had one on his ear, not like through the hole in your ear but like on this piece like here [indicating the lobe of the ear].

These accounts provide some indication of the human tragedy that many of the respondents conveyed to the ULP staff. These accounts and other traits of the respondents increased the amount of emotional stress experienced by field staff members.

Stress and Field Research

Few people have the opportunity to glimpse the subcultural world of drug users and criminals. What many people know about these issues is what scholars have disclosed about crime and deviance or from reading the print media or watching television. It became clear to field staff members that poverty, decay, despair, and hopelessness were experienced each day in the lives of these respondents in ways that many other Americans know little about. It is difficult to hear young African-American males state that they are criminals and will end up in jail because society expects African-American males to be incarcerated. It is equally difficult to listen to stories recounting the physically and sexually abusive situations from which many of the respondents escaped. It is difficult to see pregnant women on crack and to experience their own self-hatred for what they are doing to themselves and to their unborn children. It is hard to look into the eyes of countless African-American faces that seem to be without any hope of a better life and to realize that, for many, their common experience is all they expect life to be—hopelessness. It is difficult to listen to the story of a young gay drag queen who had his throat slit and face slashed and was left on the street to die. It is difficult to hear from many respondents who learn that they are infected with the human immunodeficiency virus and that they have no means of finding a place to live during their illness. These situations happen constantly and can affect a researcher's morale. It can seriously demoralize the staff and lead to staff burnout. But an even more serious stress factor involves issues of personal safety.

It is difficult to wake up each morning and be afraid to go to work. The fear of being robbed was caused, at least in part, by the fact that, at each of the cycle interviews, respondents were paid $15. The rationale for paying research respondents in cash was debated at length. After considering confidentiality and human subject concerns, it was felt that the best way to ensure that these concerns were not violated was to pay respondents in cash. Devising the procedures for distributing and controlling the flow of money at the field site was relatively uncomplicated. The psychological hardship was greater than the logistical concerns associated with the disbursement of money. Although only a small amount of cash was taken to the field site each day, respondents were aware that some cash was kept there. Therefore, there was always the possibility of robbery.

Safety issues were discussed at staff meetings, and safety precautions were well documented in the project's field manual. However, no matter how often these issues were discussed, it was difficult to ensure that individuals would take safety precautions seriously. The worst fears of the staff were realized in April 1991 when the project's field coordinator was attacked at the field site, and a pair of gold pierced earrings were snatched from her ears. After having both earlobes sutured, she took several weeks to feel safe in the field site, and the incident further heightened each staff member's own sense of vulnerability.

There is also the stress associated with the enormous amount of work that a project of this size requires. The long hours and the unexpected problems that are outside the researcher's control also contribute to stress. Supervising the field staff and university staff members who support the project is extremely demanding, with all the inherent stressors associated with overseeing a large staff, with each member having his or her own gifts and problems. For each researcher, certain situations are more stressful than others, but all researchers must find their own strategy to devise ways to reduce the stress that limits their ability to interact effectively with staff members as well as with research respondents.

Bureaucracies

It is also difficult to establish a field and project office staff of approximately 20 employees within a large university bureaucracy. It is important for researchers to thoroughly understand their home institution before submitting a grant proposal. Researchers must know the length of time required to hire staff members, given the university's internal requirements associated with obtaining authorization for the establishment and classification of university positions, advertising and conducting interviews with prospective candidates, and receiving final approval from the university's affirmative action office before any position can be filled. Moreover, it is important to understand university personnel policies and procedures that relate to the conditions under which employees can be terminated. In some instances, the process of termination can be lengthy and costly and may interfere with the operation of the research project. It is important to know how many sick, vacation, and other leave days the institution grants to employees and to assess the impact that these benefits may have on the overall research effort. The University of Delaware, for example, provides all professional and staff employees with 18 paid sick days, 22 paid vacation days, and 18 paid holidays. These kinds of issues must be considered very early in the development of the research design. The researcher *must* understand the bureaucratic landscape of the larger institution of which he or she is a part and understand the structure well to get things done in a timely fashion and receive the resources necessary to facilitate the research project.

CONCLUSION

The "field" will change a researcher. Researchers who think they will control the field experience soon learn that the field has more control over the ways in which it reshapes the researcher and the lives of staff persons. There are many lessons to be learned from staff members and research respondents, and many beliefs that are held as sacrosanct will be tested and revised in light of the human experiences with poor and needy people.

The sad truth is that drug users are easy to recruit, given the extent of drug use and poverty in American society. The most difficult part of the process involves preparing a research design that reflects the realities of the field, creating a budget that adequately reflects the staffing needs of the project, and locating good and reliable staff members who have both the knowledge of the streets and the necessary work ethic to support the research effort. In light of all experiences encountered in the field, staffing considerations and the administration of the staff are perhaps the most difficult issues to control.

NOTE

1. Several important theoretical notions are associated with this research. The context of *life structures* (regular patterns of domestic, occupational, and recreational activities) (Faupel and Klockars 1987) suggests that, as the addict's routines of drug buying, selling, and using occur, patterns of crime participation evolve. For example, addicts have been shown to use drugs so that adverse symptoms of addiction do not interfere with crime participation. Thus, in the course of their daily activities, addicts assess the opportunities for crime in locations they routinely visit. Outside of drug/crime research, investigators suggest that an individual's sociodemographic characteristics and environmental characteristics are "somehow" related to movement in space (Chapin 1974). Both determinants have been viewed as constraints, with personal characteristics representing the "demand" side of the equation and the spatial environment the "supply" side (e.g., Burnett and Hanson 1979; Chapin 1974).

   In the geographical literature, the concept of *activity spaces* parallels activity patterns and can be characterized as destinations and the routes between regularly used locations. Most activities take place in the family, neighborhood, or economic space and vary according to individual sociodemographic characteristics (Chapin and Brail 1969). Criminal residence patterns and crime locations have been linked (Shaw and McKay 1969; Morris 1958), and property crime patterns have been shown to match the offender's activity space (Morris 1958; Reppetto 1974; Rengert 1975; Pettiway 1982).

Geographers have also discussed the importance of *situational cues* and *target selection*. The environment and targets within it emit situational cues about their physical, spatial, cultural, legal, and psychological character (e.g., police patrols, unprotected or unguarded property, vulnerable victims, poorly secured structures). These cues may also be perceived as factors that increase or decrease an offender's risk of apprehension (Brantingham and Brantingham 1984; Letkemann 1973; Reppetto 1974). This research assumes that criminals use cues to locate targets. It also assumes that cues or cue sequences form templates the offender uses to compare potential targets, that congruence between templates and targets leads to rejection or acceptance of a potential target, and that perceptual similarities and patterns are conditioned to some extent by sociodemographic characteristics and length of residence (Lynch 1960; Downs and Stea 1973).

The additional geographical notion of *spatial behavior* refers to how addicts negotiate urban areas and why they go where they go to commit crime. Research on nonaddict populations relates crime to the constraining effects of distance separating offenders and targets (i.e., interactions decrease as distance increases). In nonaddict populations, search behavior seems to start from home and first cover "known" areas close to places of residence. Crime occurs close to home (Baldwin and Bottoms 1976; Capone and Nichols 1976; Pettiway 1982), with crimes against the person occurring "closer" to the offender's home than property crimes (Baldwin and Bottoms 1976). In addition to other home-centered travel, addicts must also travel to areas related to their addiction (i.e., for copping, selling drugs). What is not known is whether the addict's movement in the city conforms to that of nonaddict offender populations or whether drug use conditions the movement and distance that addicts travel to commit crimes. The preceding discussions point to a need to investigate the decisions that opiate and cocaine users, as opposed to non-drug users, make in committing crime by considering the life structure and environmental constraints that influence their space utilizations that give rise to distinct crime patterns.

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Surveying and Tracking Urban Elementary School Children's Use of Abusable Substances

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INTRODUCTION

Prospective survey research, whose goals are to produce incidence rates and test causal models, is always problematic. The researcher must meet demands for accurate tracking, accurate data collection, protection of confidentiality, and acquiring and maintaining access to the target population. These demands must be met efficiently under time and budget constraints. When the subjects are many and young, the data sensitive, and the behaviors of interest relatively rare, as is onset of abusable substance use in elementary school children, special consideration to methods of data collection and management will always be required. Additional problems in collecting data from inner-city children arise from the fact that they tend to have poor reading skills and high rates of absenteeism, mobility, school dropout, and retention in grade.

For the longitudinal drug study described here, the authors and colleagues first surveyed almost all the fourth grade students and about 20 percent of the fifth grade students in 111 District of Columbia public schools in 1988-89. About 86 percent of the students self-identified themselves as African-American, 4 percent as white, 4 percent as Hispanic, 1 percent as Asian, and 5 percent as unknown or other. These 6,000 students were resurveyed through 1991-92 and tracked into junior high school. The purpose of this chapter is to describe the methods used to collect data and track the students who remained in the Washington, DC, public school system during this period.

BACKGROUND

Urban students have been the subjects of drug surveys, but these studies have been limited to adolescents and youth. We are aware of no other effort to survey and track a grade cohort of urban, predominantly African-American students as young as those in this study. Our methods necessarily are designed to address two problem areas: those associated with collecting data from young students and those associated with collecting data from urban students.

Limitations in reading ability, poor reading comprehension, and insufficient class time devoted to the survey are known to affect the quality and quantity of data collected. Josephson and Rosen (1978) reported that more than half of 2,000 urban high school students failed to complete a 75-item survey designed for students with "average" reading ability and an average class time for administration of 45 minutes. Students of the same age can vary widely in reading abilities. Zimmerman and colleagues (1991) assessed the joint effects of the reading ability of urban, minority students in grades six through eight and conditions of data collection on the quality of the data. The investigators concluded that additional time for self-administration (i.e., two class periods on consecutive days rather than one class on one day) improved data quality but not as much as an administration format in which questions and answer choices were read to the students. Errors also were found associated with questionnaire format; skip patterns and branching increased error rates among students with poor reading skills.

Although the potential for bias caused by loss to followup can be examined by comparing baseline data for those retained with those lost, the bias attributable to uncollected and unusable baseline data cannot be estimated. An obvious partial solution is to set the reading level of questionnaires lower than average, but this strategy is constrained when the students are in elementary school and have both a limited reading ability and a short attention span. Here a tradeoff must be made between the amount of data that can be collected and the data's quality and completeness. Fewer data are better than poor, incomplete data.

Absenteeism accounts for a great deal of subject loss and varies widely among schools. In their study in 18 urban high schools, Josephson and Rosen (1978) found absenteeism varying from 5 to 50 percent. If a panel study calls for repeated interviews over several years, the percentage of students with all interviews may be far less than the percentage with the first and the last interview. Repeated school visits to "pick up" absentees is expensive and so disruptive to the school that it is often not feasible.

Absenteeism in the context of a survey means that students, expected to be in the classroom during the survey time, are not there. When a student is not in a class, the absence may be caused by illness, truancy, detention, suspension, expulsion, special class or activity, or transfer to another school. Less well recognized is the effect that tardiness has on the quantity and quality of the data when the survey must be administered in the homeroom or first period of the day. If the student has transferred, depending on the survey schedule, it is possible that the student will be "found" at another school. It is also possible that students who transfer will be resurveyed; if there are enough of them, these second surveys may be used to evaluate test-retest reliability before they are discarded.

The need for tracking occurs in experimental research more frequently than in survey research but presents similar problems. In both types of studies, it is essential that populations tracked over time are representative to reduce threats to internal and external validity of the results (Cook and Campbell 1979). A seemingly modest attrition rate of 10 percent annually compounds into a loss of 41 percent after 5 years. The results are likely to be biased if retained subjects are unrepresentative, a possibility bearing increased risk if the behavior studied is confounded with loss to followup, which is a definite concern in studies of abusable substance use. An additional threat is having too few subjects to perform appropriate statistical analyses.

Attrition threats are well recognized, although there is little guidance on how much attrition is too much. Hansen and colleagues (1990) performed a metaanalysis of the attrition of 85 school-based abusable substance research cohorts followed longitudinally for up to 3 years. Attrition rates were directly related to the time from baseline to followup; the average retained at 1 year was 73.4 percent±13.0 SD and at 3 years was 67.5 percent±19.7 SD. The researchers suggested that studies with attrition rates below the standard deviation of the mean should be viewed with skepticism and that researchers should "more explicitly address processes that may account for subject retention and attrition."

Josephson and Rosen (1978) reviewed retention rates in studies of drug use in junior high school, high school, and college students and compared characteristics of students lost to followup with those retained. In the six studies reviewed, retention rates varied from 44 to 87 percent, with intervals ranging from 6 months to 8 years. The length of the interval from the baseline interview to reinterview did not explain the differences in the percentages of subjects retained (e.g., the lowest percentage was associated with a 2-year interval, whereas the highest was associated with a 2-1/2-year interval). Seventy-two percent of subjects were retained in the study with the 8-year followup. The researchers reported that highest retention rates were associated with subject characteristics that least characterize urban schoolchildren (i.e., white, upper-middle class, attending schools in small cities). Retention rates also tended to be increased when the subjects' names were used for matching rather than a code created by the subject, when subjects were interviewed individually, and when samples were small.

Josephson and Rosen (1978) found that differences between those retained and those lost to followup were accounted for by age, attitudes toward school, behavior in school, attitudes toward drugs, and use of drugs. Biglan and coworkers (1987) reported that students who smoked and who were at greatest risk of smoking at baseline were most likely to be lost to followup. In Bailey and Hubbard's (1990) study of marijuana onset in secondary school, which was limited to students reporting no marijuana use at baseline, students retained were less likely than those lost to followup to report having friends who used alcohol and marijuana. If reported use of drugs is greater at baseline among subjects lost to followup, results from students retained in a panel cannot be generalized to the whole school population.

Some studies of abusable substance use involving children have followed them for long periods. For example, Block and coworkers (1988) enrolled 130 children at age 3 and reinterviewed 105 (80.8 percent) of these at age 14. Similarly, Baumrind (1985) began with 134 children ages 4 to 5 years and 5 years later reinterviewed 104 (77.6 percent) at ages 9 to 10. At this point she increased her sample to 164 children and reinterviewed 136 (82.9 percent) at age 14. Ten years later, Kellam and colleagues (1980) were able to locate and reinterview 939 (75 percent) of the mothers surveyed when their children were attending first grade; 18.5 percent of the mothers were lost, and 5.9 percent refused. Of the mothers interviewed at followup, 705 (75 percent) of their children were located and interviewed as well. Of these studies, only the last followed a complete grade cohort of young children from schools in a poor, African-American, urban neighborhood.

In this case, poor retention rates, 59.4 percent after 2 years and 20.3 percent after 5 years in a District of Columbia health education evaluation project beginning in grades four through six in nine elementary schools (Bush et al. 1989*a*, 1989*b*), led us to try to explain the reasons and to use different strategies in our current longitudinal survey research. The primary lesson learned was that students (and teachers) are mobile and that supposed feeder school networks (i.e., several elementary schools feeding into one middle or junior high school) are undependable. For the same number of students at baseline, it is far better for retention to have more schools and only one grade than to have fewer schools and several grades, even though it requires a great deal more administrative effort to deal with more schools.

Although increased attention is being given to methods to reduce attrition in school-based studies, especially intervention studies (Pirie et al. 1989), much less guidance is available on methods of data collection and on methods of acquiring and maintaining access. The circumstances under which schools permit surveys to be given, even in the same system and sometimes in the same school, can vary considerably. An additional problem to consider is that school principals, classroom teachers, and students must be convinced that the data collected are confidential. Sometimes, principals and teachers want assurance that the researchers will not exploit the students by providing the results to the local newspaper, thereby making the students "look bad." Research in schools in general can be a touchy issue. Principals and teachers often express opinions that "students are guinea pigs," "the researchers get all the money and publications and the students get nothing back," and "the time spent on research should be spent on learning."

Although each problem area must be addressed and will vary with the individual research project, each should be addressed in a coherent, integrated plan with as much written guidance as possible. The following section describes the methods the research team uses to access, maintain, retain, track, and collect data from young, urban students.

SURVEY METHODS

This study's survey methods are designed to give the schools and subjects confidence that the researchers are efficient yet sensitive to their concerns. Perhaps most important is that the data collection team is small, highly trained, stable, and ethnically diverse. Currently, of 14 field researchers, 6 are African-American and 3 are Hispanic. Also important is that the methods used are consistent from one year to the next, that a "school is always right" demeanor is fostered, and that the survey is not viewed as exploitational but as appropriate for the students, providing useful information and adequate safeguards to protect the students' confidentiality.

Presurvey Procedures

Undergraduate students participating in Georgetown University's work study program are recruited at the beginning of the school year for the field research team; the average student remains on the team for 3 academic years. Field researchers receive 24 hours of in-house training, which includes cultural sensitivity, and are observed for 16 hours in the field. Quality-control spot checks are made biweekly.

Several methods are used to acquire and maintain access to this school population. It is essential to obtain the blessing of the school administration and a letter from the superintendent that supports the study and asks schools to cooperate. The research team also meets with personnel responsible for school-based research and program evaluation to inform them about the study, to answer questions and concerns they may have, and to offer to incorporate questions they may want answered into the surveys. For example, teachers are surveyed annually about substance abuse prevention activities and programs in their schools, and the results are provided to central school administration personnel.

Because school principals have the final say over research in their schools, several things are done to maintain cooperation. A health miniscreening, consisting of blood pressure and cholesterol readings, is provided to school personnel on request during the school year. As an additional service, school system identification (ID) numbers for resurveyed students are provided to the schools who have missing ID numbers. An annual report from the school survey is provided to school administration personnel and the participating school principals. This report, one version for each of the eight school zones, compares the results for students in each school zone with the overall results and shows the results for each year. Also, a personalized letter of thanks is mailed after each school visit to the principal, contact person, and teachers.

No later than 2 weeks prior to a proposed survey date, the principal, who has already received letters introducing the survey and giving the school administration's permission, is telephoned to arrange a date and time for surveying. During this call the principal is asked to designate a contact person to prepare class lists of names with their school system seven-digit ID numbers. A contact sheet is filled out for each school with the names of the teachers, the date and time of the visit, and the contact person's name. This sheet is given to the staff member responsible for coordinating class list pickup. In some instances, principals request in-person meetings prior to scheduling.

Once a school is scheduled, letters are sent to the teachers explaining the project and giving them a date and time for the visit to their classroom. The designated contact person is called to make arrangements for picking up the class lists; this task is completed no later than a week before the school is scheduled to be surveyed. During this telephone call, the teachers' names and the grades they teach are confirmed, and the contact person is reminded that the class lists should have student ID numbers.

A school visit is made to pick up the class lists and teachers' names and classroom numbers as well as to leave copies of the passive consent letters for the students to take home. The principals (4.3 percent in the first year) who insist on positive consent cosign the letters and take responsibility for requiring their students to return the forms. The project coordinator has discretion to use student incentives (e.g., inexpensive gifts) to reward return of positive consent letters. All consent letters include the name of the school and the date of the survey. After the class lists are picked up, each is logged, and each class is assigned a four-digit school and class code that also identifies the grade. Next, a school visit log is completed containing each teacher's name, grade, room number, class number, and time and date of the survey, and a copy is given to each field interviewer.

After the school visit log is completed, the survey log is filled out using the information from the school visit sheet. The survey log contains the school number, teacher's name, class number, and spaces to fill in the dates when the survey is completed.

Each class list is typed, double spaced, and alphabetized. A two-digit number is assigned to each child's name, starting with 01. The four-digit school code is typed at the top center of the page with a space between the school number and the class number. One copy of each typed list is paperclipped to the original lists picked up from the school and given to the data manager for computer entry.

A manila envelope is prepared for each child. A label is affixed to the upper right corner of the envelopes containing the school and class code and two underlined empty spaces (e.g., 101 1 _ _). The envelope is stuffed with a copy of the numbered list of children in that class (e.g., 01-40), a survey answer sheet, and a sociometric questionnaire.

The envelopes are placed in the transport boxes (one for each interviewer) along with a box of sharpened pencils, a box of incentives (e.g., inexpensive key chains, toy erasers, decorated pencils—depending on the age of the students), envelopes to be left for absentees, and a folder containing extra copies of everything.

Classroom Survey Procedures

After reporting to the school administrative office, the interviewers (usually two) proceed to their assigned classroom, introduce themselves to the teacher, and inform the teacher about how the survey will be conducted. Teachers may be told that during the summer the school principal will receive a summary report comparing the school ward survey results with the combined total survey results. It is important to use tact in preventing teachers from acting on their natural inclination to participate in the survey by answering questions, directing answers, or looking at answers. At the same time, the interviewer may need the teacher as an ally for the occasional disciplinary problem.

The seriousness and confidential nature of the survey are stressed. The students are provided assurances that the researchers are not interested in their names; that no teacher, parent, or school official will ever see their responses to either the survey or the questionnaire; and that their names will never be used in connection with their responses. If this is not the first survey, students who remember participating "last year" are asked to raise their hands. They are then asked whether anyone found out their answers. When these students respond "no," it reassures those who are participating for the first time. Students then are told they can skip any question they do not want to answer and that it is better to skip a question than not tell the truth.

If possible, students are spread out in desks around the classroom, and each is given a stuffed manila envelope and, if in grade six or higher, a questionnaire booklet. Students are asked to remove the class list but nothing else until further notice.

The students are told to find their names on the class list and to write their corresponding numbers on the two blank spaces on the label on the manila envelope. Then roll is taken and reasons for absences are noted on the class list by the interviewer. Students are asked to strike out the names of students who have transferred on their class lists.

Next, the students are asked to take out their sociometric questionnaires and to complete them using the numbers (not names) on the class list. The class is led through a previously completed hypothetical example. To increase confidentiality, four versions of this 16-item instrument are used at each administration; these versions are created by rotating the bottom four items to the top for three iterations. An additional item asks the students to find their three best friends on the class list and to fill in the three indicated spaces. After this explanation, students are directed to return the class lists and sociometric questionnaires to their envelopes and to take out their survey answer sheets.

The interviewer points out that the survey answer sheets do not contain the questions or identifiers. The sheets consist simply of a list of question numbers with the appropriate number of small circles for each answer; the circles are labeled from A to E. Students are asked to fill in the circles for the corresponding answers that are true for them. They are reminded that it is not a test, that there are no "right" or "wrong" answers, and that the interviewers just want to know what students think and do and how they feel. Students are asked to raise their hands if they have any questions, to cover their answer sheets with their manila envelopes as they move along, and not to share their answers. The interviewers are trained to answer questions in a way that increases understanding but in no way indicates what the answer should be. Surveys may be removed from students who continue to talk or do not take the survey seriously; a student continuing to disrupt the class may be sent to the principal's office.

For fourth and fifth grades, an illustrated slide show of questions is used to administer the survey with each question and each possible answer read aloud by the interviewer. For sixth grade and up, the questionnaire book permits self-administration but has no skip patterns, branching, or "checkerboard" formats.

A questionnaire booklet in Spanish is available for Spanish-speaking students. For mixed classes below the sixth grade, a Spanish-speaking interviewer reads each question in Spanish after it is read in English from the slides; the Spanish-speaking students follow along in their booklets.

After survey completion, each student places his or her answer sheet in the envelope and completes the sociometric questionnaire. As they finish, each student brings the envelope to the interviewer who checks to see that the external label is coded correctly and directs the student to tear up the class list and put it in the wastebasket. The student then places the sealed envelope containing the survey answer sheet and sociometric questionnaire through the slot in the transport box and receives a small gift.

For each student absent from the class, a manila envelope containing only a drug survey questionnaire, an answer sheet, a gift, and a preaddressed stamped envelope is left with the teacher. The manila envelope has the student's name on it, but the survey answer sheet contains only the student's project ID number. The teacher is requested to ask absent students to complete the survey and mail the answer sheets to us; the manila envelope and questionnaire are discarded by the teacher.

Postsurvey Procedures

The school data arrive in sets of envelopes divided by school and class, with the class list on top of each set as an attendance list and record of the interviewer's special comments (e.g., "refused"). The envelopes are ordered by number and compared with the class lists. Discrepancies are rationalized by the researcher who surveyed the class (e.g., an "absent" student may have come in late and completed a survey).

If the class list is correct but not completely correlated with the stack of envelopes, it is assumed that a student wrote the wrong number on his or her envelope. If two students used the same number, it is sometimes possible to determine which is correct by gender reference or by examining the "best friends" networks. If it is not possible to distinguish between two subjects, special code numbers (i.e., 98, 99) are assigned.

Data cleaning is the next step. Cleaning means deletion of impossible answers, multiple answers when only one is permitted, and obvious patterns indicating the subject was not reading the question; these patterns are usually simple runs of numbers in order. Cleaning protocols with examples are used to guide this activity. After cleaning, the surveys are entered into a database, verified, and delivered to the data manager.

Locked File. The master computerized file contains the students' names, the school system seven-digit ID numbers, and each year's study ID number indicating the school, class, and student position in that class; it also contains a number indicating the student's presence or reason for absence. This file cannot be used on a network or mainframe; it is restricted to one personal computer and accessed by a secret password by the data manager. The principal investigator also keeps the locked file password under lock and key. At the end of each year, the locked file is temporarily linked with the survey data to match the subjects longitudinally and to remove any repeat surveys. All data analyses are performed on files containing only project ID numbers that change for each student each year and would require knowledge of the system and access to class lists for identification of an individual.

The locked file was originally planned to circumvent the problems of tracking with students' names (e.g., confidentiality, duplicate names) by using the seven-digit ID number assigned to each child by school system to link the yearly study ID numbers. At the beginning of the second year, it became apparent that consistent school-assigned ID numbers were difficult to obtain; there was considerable variation from year to year even within the same school. Frequently, the same number would be assigned to several children in the same or different years, and the same children were often assigned completely different numbers; 10-percent variation of school-assigned ID numbers within a class is common, and rates as high as 30 percent have been noted. To increase the accuracy of the tracking system, a decision was made to include the students' names in the locked file.

The locked file is organized by school. When the class lists are given to the data manager, she first searches for the children among those surveyed in the school the previous year. Any students left unmatched are tracked by school ID from the pool of unmatched students from previous years, and the remaining children are added to the file as new students. The school ID numbers recorded in the locked file are then compared with the new list of numbers supplied by the school. Any inconsistencies are noted and later checked through a telephone call to the school's office. School ID numbers are also obtained for students who have just transferred into the school. The school ID numbers are most important when the students move from elementary to junior high school because they can then no longer be tracked on the basis of the school attended in the previous year.

The names of the new students added to the file are periodically checked for matching names in previous years. The ID numbers for the matching names are compared and are frequently found to vary by only one or two digits; these students are considered positive matches and a note is made to verify the school-assigned number. Matching names are also found for students for whom a school ID number was unavailable one year or whose school ID numbers are completely dissimilar. These will be matched only if no student with a similar name can be found. Many students who are possible matches remain unlinked in the locked file to avoid compromising the validity of the longitudinal analysis.

Because of the transient nature of the student population, students are occasionally surveyed twice within the same year at different schools. These duplicates are picked up through the locked file, and the second survey is discarded unless the first survey was incomplete.

Attendance records are also kept in the locked file. Attendance reported on the class list, indicating whether the child completed the survey and the reason for noncompletion, is transferred to the locked file. The categories for not completing the survey are divided into "absent," "refused," "transferred," "misbehavior/suspended" (also applied to children sent to the principal's office), "special ed.," and "unable," which refers to a language barrier or a legitimate absence for a special activity. A complementary set of codes indicates whether surveys for any of these absences have been mailed back; the locked file is updated as the surveys are returned by mail.

Absenteeism and Retention Rates. In the third year of the study, both sixth and seventh grades were surveyed; the following data refer to this third year to demonstrate differences between elementary and junior high school. For sixth grade, 86.0 percent of the students on the class lists were present and surveyed; the rate for seventh grade was 73.0 percent. Absent from school were 7.8 percent of sixth graders and 19.5 percent of seventh graders. Attending special activities or special education classes were 3.4 percent of sixth graders and 5.6 percent of seventh graders; less than 1.0 percent of either grade was suspended from school temporarily; 1.4 percent of sixth graders and 0.4 percent of seventh graders refused; 1.3 percent of sixth graders and 0.9 percent of seventh graders were reported transferred. Of students who were not present to take the survey but who had not transferred or refused, 24.6 percent of sixth graders and 13.9 percent of seventh graders mailed completed surveys. Thus, the final percentages of students surveyed of those who had not transferred were 90.2 percent of sixth graders and 77.3 percent of seventh graders.

Of the students surveyed in the first year when they were in fourth grade, 72.6 percent were resurveyed in the second year when they were in fifth grade; an additional 9.6 percent were tracked but not surveyed on the second occasion for a total of 82.2 percent. In the third year, in sixth grade, 64.8 percent of those surveyed in the first year were resurveyed, with an additional 7.4 percent tracked but not surveyed in the third year for a total of 72.2 percent.

Survey Questions

Behaviors assessed are (1) abusable substances use, including cigarettes, alcohol (beer, wine, liquor, wine cooler), marijuana, and cocaine/crack; and (2) health-promoting behaviors, including eating properly, exercising, and going to bed before 10 p.m. on school nights (Iannotti and Bush 1992). Age of first use and ongoing use are determined for each abusable substance. Health-promoting behaviors are assessed in absolute terms. ("Which things do you usually do?")

To increase validity of responses, questions relating to substance use are posed in a way that assumes the child has used the substance (e.g., "How old were you when you first . . .?"), with the option "Never have" following the choices for age of first use.

Intentions to use abusable substances are assessed in a similar manner (e.g., "When do you think you will smoke cigarettes?"). Perceived friends' and family use are assessed for each of the four substances. Each child also indicates his or her degree of concern about a best friend's use of each abusable substance and perceived social pressure from friends to use these substances. To assess other potential environmental influences and potential normative expectations for abusable substance use, children are asked whether they have ever witnessed the sale of drugs and, if so, whether it was by a family friend or family member; whether they have been asked to help someone sell drugs and, if so, whether they did help someone sell drugs; and for each substance, whether it has ever been offered to them.

DISCUSSION

Except for the inclusion of African-Americans in the field data collection team, instruments and survey administration methods were not developed because this student population was predominantly African-American, but because it was young and urban and would, therefore, have limited reading skills. Methods relating to population access, maintenance, and tracking were developed to allay the concerns of school administrators and teachers who are predominantly African-American and to deal with an urban population that tends to be mobile and to have high rates of absenteeism.

As these students moved into junior high school, it became apparent that some of the methods, developed primarily because the students were young, should be continued. Other drug surveys have been performed among urban junior high or high school students (Brook, this volume; Johnston et al. 1991; Josephson and Rosen 1978; Kaplan et al. 1984; Newcomb and Bentler 1988). Concerns have been raised about the effects of underreporting, school dropout, and absenteeism (Oetting and Beauvais 1990). Various methods have been applied to detect reporting inconsistencies, but as noted by Zimmerman and colleagues (1991), few have raised concerns about the effects of instrument design and administration. Low-literacy students are more likely to be inconsistent, to fail to complete surveys, and to have trouble following directions. Of additional concern is Zimmerman and coworkers' finding that low-literacy students are less likely to indicate they reported honestly. If low literacy is associated with the outcome variables of interest, systematic bias is introduced that is related to the complexity of the instrument, time for administration, and administration style. It is uncertain whether Zimmerman and colleagues' finding relative to honesty is an attribute of low-literacy students or only appears to be so because the questions, placed at the end of the survey, are unread or misunderstood. In view of the fact that many urban students leave school as functional illiterates, it seems only prudent to design school surveys with this in mind. Thus, a survey designed for the reading limitations of young students may also be appropriate for older urban students.

No hard and fast rules or inflexible protocols can address all the problems in any school survey research. Paramount for quality is an excellent field coordinator who understands and is committed to the project, who has extremely good interpersonal skills, who is flexible while maintaining the integrity of data collection, and who is compulsive in recordkeeping. Longitudinal school-based research tends to be unforgiving. Not getting it right the first time, angering a principal, mixing up a survey date, getting lost on the way to the school, putting the wrong name on a letter, or almost any seemingly small thing can mean loss of access and data. Conversely, an experienced team that is efficient and administers surveys in a way that is visibly competent and sensitive to the students' abilities while maintaining confidentiality builds a relationship of trust that opens the school doors the following year and possibly for subsequent studies.

In summary, our methods fall into two categories, those primarily addressing the quality of the data and those primarily addressing the quantity of the data. Those primarily addressing quality are:

- The data collection team is small, well trained, stable, and ethnically diverse.
- A slide-show format with questions and response choices read aloud to the students is used below sixth grade.
- The maximum reading level is fourth grade.
- Questions about use of abusable substances are asked at least two different ways.

- Yes/no responses to use questions are avoided in favor of a format that assumes use with "never used" as the last choice.
- Branching, skip patterns, or "checkerboards" are not used in the instrument.
- Questionnaires in Spanish and Spanish-speaking interviewers are available when needed.
- Surveys are administered in individual classrooms rather than in large groups.
- Subjects are told not to answer a question rather than lie.
- Interviewers are carefully trained to answer questions without suggesting answers.
- No subject identifiers are used on answer sheets.
- Subjects tear up and discard classroom name lists.
- Subjects place their answer sheets in individual manila envelopes and observe their removal from the classroom in closed boxes.
- All classroom activities are completed in less than 50 minutes.
- Students and teachers are advised about the purpose of the survey and guarantee of confidentiality.
- Consistency in methods is maintained as much as possible from year to year.
- Written protocols exist for all steps.
- Data are hand cleaned, entered into computers, and verified by in-house personnel on an ongoing basis.

Methods primarily addressing the quantity of the data are:

- Students are given a small gift on completion.
- Data are linked on an ongoing basis through names, a school system seven-digit code, and classroom codes in computer-locked files.
- Stamped envelopes with questionnaires and gifts are left for absentees.

- Annual cumulative reports are provided to principals.
- School staff members are provided health miniscreenings on request.
- Missing school ID codes for resurveyed students are provided as a service to the schools.
- In cooperation with the school system administration, teachers are surveyed annually, and a report is prepared.
- Results are not released to the press.

In view of the importance of subject retention in longitudinal research, especially longitudinal drug research, it is surprising that research reports do not give greater prominence to retention rates and tracking methods. A mini-MEDLINE search of longitudinal studies reported in the American Journal of Public Health since 1986 revealed that none considered the retention rate important enough to include in the abstract.

However, it is increasingly common to see some analyses of baseline data comparing subjects retained with those who were lost to followup, with some discussion of the potential biasing effects and inferential limitations. Also, some guidance is available to help researchers build in methods that will assist subject location for followup (Pirie et al. 1989). However, the subject information recommended (e.g., full names of both parents or guardians, child's birthdate, Social Security numbers of parents and child, names of contact persons, future moving plans, and school transfers) is next to impossible to obtain and maintain for large, urban, school-based studies.

Much more research is needed on methods of data collection from young and/or low-literacy subjects. There is little guidance on how many questions can reasonably be asked at what ages; how, where, and by whom they should be asked; how to take children's cognitive developmental levels into account; how to know when to discard part or all of a survey; what to do when a student denies having performed a behavior admitted to in a prior survey year (a situation we refer to as "offset"); and how to distinguish between unintentional errors, errors due to fatigue, and frank dissembling. Biochemical markers are expensive, invasive, and unsuitable for establishing prevalence rates for infrequent, experimental drug use. For the sake of comparability, as more drug survey research is performed in elementary school-age children, there is a need for some standard questions and methods.

We encourage methods that will increase comparability of data obtained from preadolescent children. We recommend that networks be established of researchers who are willing to serve as resources for investigators planning children's survey research. An additional recommendation is that funding agencies and study sections be made aware of the limitations of surveying young children, low-literacy children, and children for whom English is a second language. It should be recognized that surveying and tracking methods for young or low-literacy urban students cannot simply be adopted from surveys of older or more literate populations but require special techniques and support.

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School and Community Politics: Issues, Concerns, and Implications When Conducting Research in African-American Communities

Julius Debro and Darlene J. Conley

INTRODUCTION

Political issues, such as the kind of research to conduct as well as where and how to conduct that research, have always been major issues regarding research in African-American communities and at major African-American institutions. In the past, research has been conducted in African-American communities and at African-American schools without much public controversy or protest, but since the Tuskegee experiment, in which 400 African-American males were denied treatment for syphilis for more than four decades in a governmental experiment, conducting research in such communities has become more closely scrutinized and supervised by communities (Jones 1981).

In particular, African-American scholars and communities have become more sophisticated and organized in their efforts to monitor research targeting African-American populations and issues and are now requiring accountability from researchers, regardless of race and ethnic background. Various actions have come from this vigilance that are redefining the standard ways in which research (e.g., field operations) is practiced. For example, some communities are now requiring researchers to include community people as part of the research team (Willie 1983). Other communities are requiring that the director of the project describe what benefits will ensue to the community from the research. Still others are requiring that the research project be approved by a community oversight group or neighborhood planning unit before the researcher is allowed to conduct his or her research within the community.

This chapter discusses the politics of and barriers to conducting research in African-American communities. Its major focus concerns African-American urban communities—frequent sites for research projects on social problems. The authors' experiences with such communities will be used as illustrative examples of problems that can arise in community-based research and strategies to resolve them.

RACE AND RESEARCH

In a perfect world, the race of the researcher should not play a role in collecting data. However, in the real world it does influence the type of information that the researcher obtains and how that research is interpreted. Many community people are concerned not only about the race of the interviewers but also about the race and political orientation of the persons who design the questionnaires and interpret the data. African-American communities traditionally have been utilized for much of the urban research in this country (Drake and Cayton 1944; Myrdal 1974; Liebow 1967; Rainwater 1970; Currie 1991; Wilson 1987; Moynihan 1965). This focus on urban communities has intensified in the past two decades as cities have become increasingly more African-American, Hispanic, and Asian (Schaefer 1990, p. 258; Pinderhughes 1992). Although the research in some cases has been beneficial, researchers generally have not gone back to communities with results; thus, communities have become skeptical about researchers working in these communities (Rebach 1991).

In addition, a significant proportion of research on African-Americans has been conducted by predominantly white researcher teams who in some cases misinterpreted the underlying problems and conditions that do and do not exist in African-American communities (Rebach 1991; Headley 1990). This is not to imply that research conducted by white researchers has not made significant contributions to the well-being of African-American individuals. For example, recent research conducted by Gfoerer and De La Rosa (in press) has provided information on the important role that parents play in preventing drug use among Hispanic and other minority youth. However, many African-Americans are concerned that the research conducted in their communities by non-African-American researchers is not relevant and responsive to the perceived needs and concerns of African-American communities.

Moreover, gaining access to African-American populations for research purposes has changed dramatically over the past two or three decades. Increasing numbers of communities will not allow researchers to enter without demonstrating some commitment of resources or strong statement of expected benefit to the community. Furthermore, some communities will not allow investigators of different racial or ethnic backgrounds to enter without some overt connection to members within those communities. Entry often must be made through a political connection or through becoming a pseudomember of the community by living in the community for some time. This method of entry is not much different from that used by anthropologists who work in other countries and have long had to deal with the problems and politics of conducting research in a different culture. Historically, these researchers would submerge themselves in a culture for 2 or more years, collect intimate details of people's lives, write their dissertation or books, and leave without contributing in a meaningful way to the society. Communities are no longer tolerating this form of scholarly exploitation. It should also be noted that the relatively high rate of crime in urban areas creates safety concerns for all researchers; however, the risk of victimization may be higher if the researchers appear not to be members of the community. In a few cases, researchers have been threatened or assaulted because of their skin color.

In the 1960s, Third World people became more politically conscious and questioned how the research would benefit their societies or individual families and subjects (Billingsley 1968). Political consciousness has increased in the same way in this country, and now neighborhoods within cities are beginning to ask the same questions.

What has emerged from this research in African-American communities is the realization that the barriers encountered by U.S. anthropologists, when collecting data in inner-city minority communities, are not much different from those of their colleagues working in the Third World. For example, whereas researchers in the Third World have to worry about dealing with national governments or the international implications of their research, researchers in the United States need to be more aware of their interactions with governmental institutions and private agencies. Often, these organizational systems are reluctant to participate in research, fearing that the data collected and the issues involved might have a negative impact on future funding.

Although the information may not be released to law enforcement agencies, the possibility exists that the data, once published, might have negative consequences for future public policy. Furthermore, the image of the African-American community presented by social scientists is of vital concern to African-American leaders and organizations. Social science research in this country has historically focused on poverty and crime in the African-American community and has rarely focused on the positive aspects of African-American life (Mendez 1988; Schaefer 1990). Research on drug abuse among African-Americans and Hispanics at times has reinforced the stereotypes of minorities as being the only ones who are using drugs.

Similarly, since the early 1900s, the news media have in many instances portrayed African-American communities as riddled with drug addicts and drug-related criminal activities. More recently, media stories have been expanded to include Hispanic communities (Banks 1991).

DEVELOPING RAPPORT IN THE COMMUNITY—THE TIME FACTOR

Overcoming the community's suspicions and basic mistrust of research and establishing open lines of communication is, perhaps, the first major task in implementing research. This can take a significant amount of time. For example, in conducting research in African-American communities in the South, a considerable length of time was required to develop rapport with people in the community and with workers in organizations (Conley and Debro, in press). In a project in Atlanta, the authors were required to obtain the approval of the neighborhood planning units in four specific areas before conducting race and crime research.

In some cases it takes years for trust to develop. Unfortunately, most research projects are short term, and the data collection process seldom lasts more than a few months or years; therefore, many researchers are unwilling to spend time establishing community ties. Often, the people and organizations with whom researchers work seem to resent the "hit-and-run" tactics. To improve the credibility of drug abuse research, a long-term commitment has to be demonstrated before area residents are willing to cooperate with researchers. This problem can be addressed by including persons within the community in the research design. Community residents are much more receptive if they see themselves as having a part in the decisionmaking.

In one research project, the authors combined participant observation with a survey to gather information about drug use and to evaluate an acquired immunodeficiency syndrome (AIDS) street education program. The project spanned a 3-month period, and researchers found at the end of the period that much of the information provided by subjects in the initial pretest was false. For instance, subjects seldom would admit to illegal drug use on the pretest survey, although the housing project they lived in was noted for heavy drug traffic and use. It was discovered that subjects lied for at least two reasons. Many believed that the research was a front for undercover narcotics agents, and a couple of individuals admitted that the information they provided on the pretest was the response they thought the researchers wanted to hear. Efforts to establish relationships with community members and groups were undertaken to increase the accuracy of the self-reports.

Once a working relationship was established with the mothers of the community, the researchers were able to collect the information that was needed. Some residents began to open up and admit to drug use after seeing researchers in the community everyday for several weeks. If the project had continued for a longer period, even more information on drug use could have been collected, but the project ended just when residents had finally developed enough trust to open up and provide full and complete information.

Compensating subjects and recruiting community residents as paid members of the research team can be an effective means of gaining community cooperation and access. However, it should be noted that this does not lead to immediate trust and full disclosure. In other studies, researchers found that although informants were paid for interviews, monetary payment could not substitute for time spent assisting persons in the community. For example, during our Ecology of Crime and Drugs project, funded by the Social Science Research Council (Conley and Debro, in press), a researcher recruited an individual in the community to act as an informant and guide. She conducted indepth interviews with him and obtained his life history during the first month of the project. Nevertheless, it took 8 months before he admitted that he had AIDS and was still an occasional drug user. He did not volunteer this information until after the researcher had helped his father file a police brutality complaint. Other informants expected researchers to sit down and chat or visit their homes several times before opening up. Community access is usually best established through a support group or social networks within communities. (These initial interactions also might be important when establishing rapport with other minority communities, such as Puerto Ricans, Mexican-Americans, Dominicans, Jamaicans, Haitians, Filipinos, Japanese, and Koreans.) Based on the authors' experiences, regional differences may exist in community receptiveness to various entry networks and strategies. Although it is a generalization, in the South the general rule of etiquette is that people have to get to know you first and establish your "roots" before they talk to you. In the African-American community, this means attending a local church or a historically African-American college, such as Clark-Atlanta University, Morehouse College, Spelman College, or Morris Brown College, or having an older person or a minister in the community provide a verbal reference.

Affiliation with community leaders is a definitive plus when developing a working relationship with African-American organizations and communities. These linkages have often been ignored by researchers, leading in some instances to initial distrust by the communities regarding the activities of the researchers. To obtain the support of African-American communities and their leaders, efforts must be undertaken by researchers, particularly those focusing on sensitive issues such as drug abuse, to involve all significant gatekeepers throughout the entire research process.

AFRICAN-AMERICAN RESEARCHERS: THEIR IMPACT ON THE RESEARCH PROCESS AND COMMUNITY EXPECTATIONS

Other concerns or issues for researchers conducting drug abuse research on African-American communities are the impact that African-American researchers have on the research process and the community expectations toward these researchers. Sharing the same ethnicity or historical experiences of oppression can be a double-edged sword. African-Americans and other minorities who work in community organizations with whom the authors have collaborated often have different expectations of minority researchers. For instance, they often will see a minority researcher as a potential ally and as someone who will be an advocate for their organization or cause. In contrast, they might see a white researcher insensitive to their plight as a potential enemy, as an outsider who has once again come in to study nonwhite people and malign their organizations. As a result, often the minority researcher has a definite initial advantage over his or her white counterpart because the people in these organizations are more willing to help a minority researcher collect data and to confide important information to him or her than a white researcher who may show little concern for the plight of African-Americans. On the other hand, this can pose problems for African-Americans who are researchers hired to evaluate a program. The organization might feel betrayed if the evaluation report is the least bit critical of the organization, its activities, or its administration.

The race of the principal investigator in some instances can also make a difference in the analysis and interpretation of data obtained in African-American communities. Wilson (1978), in his study of African-American communities in Chicago, found that poverty was the root cause of urban decay in that city. His data were misinterpreted and turned into a discussion of race vs. class in which majority researchers attempted to discount race as a contributing variable in urban violence. After many years, Wilson (1987) is still explaining his interpretation of data collected in Chicago ghettos. Despite the controversy surrounding his work, he is still seen as an African-American investigator with unlimited access to ghetto areas in Chicago.

When researchers are affiliated with a historically African-American college, it is assumed that the project is controlled by African-Americans and that the researcher will interpret data from an African-American perspective; however, if the researcher is affiliated with a predominantly white university or research organization, it is assumed and often true that the African-Americans are merely the hired "field hands" and that the data will be analyzed and interpreted from a majority perspective. When African-Americans are hired only to supervise or participate in the data collection process, several problems may arise. For instance, in some cases subjects might assume that African-Americans working on the project have more influence than they actually do over how the data are interpreted and presented. Furthermore, African-American researchers might be embarrassed to admit that they are being supervised by white senior researchers and that they cannot alter the focus of the research questions or control decisions concerning the budget. Once the people in the community find out this information, they might see the minority researcher as a "front person" and become more reluctant to cooperate with research efforts.

Several of the research projects in which the authors have been involved during the past 3 years have attempted to address the above-mentioned issue by:

- Working with people who are on the front lines in the drug wars
- Informing community residents of ongoing research activities in their communities
- Delineating the responsibility for grant-related activities
- Inviting community people to the university and requesting their input into grant-related activities that affect their communities

PAYMENT AND RECIPROCITY

Another problem confronted by drug abuse researchers conducting research in African-American communities concerns the issue of payment and reciprocity for the subjects and communities participating in such studies.

It is not unusual for subjects to expect some type of payment. Drug users especially have become more sophisticated about payment and often will not participate without compensation. There is also the misconception that social science researchers are making a lot of money from the articles and books they write. One of the authors' researchers is frequently asked by subjects for more money because the information about their lives will "sell a lot of books" or provide the "plot for a TV miniseries." It is difficult to explain to people in the community that academics trade money for academic status and that their articles will be read by only a few people. To address this issue, the authors found that other types of assistance could substitute for money. For example, Atlanta's low-income housing communities have been stripped of many social services. Something as simple as handing out free condoms is perceived positively in the community. Many people merely need information, such as where to go to apply for the Women, Infants, and Children supplemental food program or where to get free prenatal care, legal assistance, or drug treatment. In one project, some of the authors' researchers gave secondhand books to the children of the families participating in the study. These children's books were a luxury and were appreciated more than the $5 that was paid for interviews.

In some cases, the authors have been advised against paying subjects because it might undermine the influence of other organizations working in the community. For instance, recovering addicts who were enrolled in drug treatment programs were not paid for interviews because it could differentiate them from other clients in the program and reward the addicts for providing information about a negative aspect of their lives. Outreach workers who were recovering addicts were also protective of their clients and sat in on interviews. It was important that the authors' researchers did not compete with the counselors or outreach workers or contact clients without the knowledge of their counselors, who became protective of the recovering addicts and were concerned that clients not be exploited or used for political gain.

STRATEGIES FOR FACILITATING RESEARCH

Following is a summary of approaches for facilitating research that have met with some success.

1. It is imperative that organizations that are asked for assistance are fully aware of the purpose of the research and that the results are shared with them. Before the research is undertaken, the actors in these organizations and neighborhood political organizations should be asked to contribute their ideas. The authors have frequently incorporated questions or included certain issues in a research design at the request of outreach workers or community activists. The researcher should attend community meetings and find out what issues concern the community and also should be willing to provide assistance to these organizations. For instance, a community organization might be fighting to ban a dump site or prevent other negative development but might not know how to go about conducting research to support such a position. The researcher does not have to take sides but can provide an organization with information on how to do research and with access to university libraries.

2. The relationship with the organization and community activists should not end when the research project ends; rather, steps must be taken to stay in contact with these individuals, including providing them with some type of assistance in attaining their goals. For example, many outreach workers have asked for advice about continuing their education. Although the authors have not been able to offer scholarships, we have referred workers to various faculty and academic programs. Others have asked for assistance in writing grants to establish their own programs and have been referred to persons or agencies that can assist them. We have also invited persons from organizations into the classroom to lecture and to learn more about the research process. Understanding the research process helps to develop trust and a greater understanding of the academic world.

3. Research subjects should realize some benefits; monetary compensation is not enough. Some researchers have been revolutionary and incorporated social service resources into the grant.

4. Government and private funding agencies should capitalize on the research potential of historically African-American colleges and universities—not only are many of these institutions located in African-American communities, but

they also employ African-American researchers as well as those of other cultural and ethnic backgrounds who are more likely to be able to gain entree into these communities.

As a closing observation, it should be noted that gaining entree into African-American communities is becoming more difficult, primarily because violence has become endemic to the urban community, posing serious concerns for the personal safety of research team members as well as potential research participants. Researchers must begin to rely more on persons of the same racial or ethnic background to conduct social research in those communities.

Although some of the causes of violence are understood, it still is not understood why drug-related violence might be higher among certain ethnic groups. Community people must be utilized more in research so that the underlying causes of this violence can be avoided in minority communities.

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Substance Use Disorders Among Young Minority Refugees: Common Themes in a Clinical Sample

Joe Westermeyer

INTRODUCTION

An extensive literature exists regarding drug use among a diversity of youth groups, including students in high school and college, "street" youth, and incarcerated young persons (Amini et al. 1976; Baumrind and Moselle 1985; Dias and Polvora 1983; Kandel 1982; Kandel et al. 1986; Keyes and Block 1984; McKirnan and Johnson 1986; McLaughlin et al. 1985; Morrissey 1981; Patterson et al. 1988; Robson 1984; Rosenberg 1971; Smart and Adlaf 1986). Anecdotal case reports and clinical experience with adolescent drug abusers are also numerous (Amini et al. 1976; Baumrind and Moselle 1985; Bean 1982; Bernstein 1984; Blum 1967; Coupey and Schonberg 1982; Czechowicz 1988; Easson 1976; Geist 1974; Griffin 1981; Heilbrunn 1967; Hennecke and Gitlow 1983; MacDonald and Newton 1981; MacKenzie 1982; Masland 1972; Niven 1986; Solow and Solow 1986; Wells 1985), with a smaller number of careful clinical surveys of adolescent substance abusers (Kashani et al. 1985; Safer 1987; Smart 1979). Several studies of adolescent substance abusers have focused on family and peer factors (Burnside et al. 1986; Klinge and Vazirir 1977; McDermott 1984; Rathers et al. 1977; Rosenberg 1971; Schuckit and Chiles 1978; Smart and Fejer 1972). Morgan and colleagues (1984) studied alcohol use among Indochinese youth ages 16 to 22, comparing them with African-American, Hispanic, and Caucasian youth. They observed that these recently immigrated Indochinese youth began drinking later and were less likely to have experienced problems related to drinking but were more likely to drink "to forget" (Morgan et al. 1984). In a clinical study of 28 Indochinese adolescents conducted within a few months to 5 years of their arrival in the United States, none received a substance use disorder (SUD) diagnosis (Williams and Westermeyer 1983).

Following World War II, Krupinski (1967) in Australia commented on the increase in SUDs among refugees several years following relocation. However, he did not remark on such problems among young refugees. Because the pandemic of substance abuse among post-World War II youth had not yet been described (Cameron 1968), perhaps young refugees were not at risk of such disorders at that time. However, refugees nowadays both come from and migrate to areas in which SUD occurs among adolescents and young adults (Westermeyer and Neider 1988). Thus, it was of interest to review the author's clinical experience with adolescent and young adult refugees to see whether any general trends might be perceived. Particularly interesting were the following questions:

- Are there special demographic characteristics among young refugee substance abusers?
- Are refugee experiences (e.g., wartime losses, persecution) common among young refugees with SUDs?
- Do the substances used by young refugees resemble those of their country of origin or those commonly used in the United States?
- Are there particular forms of associated psychopathology among young refugees with these disorders?

METHOD

Sample

The subjects described below were encountered as patients in a clinical program for refugees located in the Department of Psychiatry at the University of Minnesota Hospitals and Clinics. Only patients in their teenage years and twenties were analyzed for the report presented in this chapter. All subjects were born outside the United States and admitted as refugees to the United States.

Adolescent subjects included the following:

- Hmong male, age 15, cannabis dependent, orphaned unaccompanied minor, single, student, lives with Hmong relatives
- Vietnamese male, age 15, cannabis-alcohol abuse, unaccompanied minor, single, student, lives with older brother and American foster parents
- Lao-Hmong female, age 15, alcohol abuse, single, student, lives with parents
- Cambodian male, age 16, cannabis abuse, single, student, lives in an adolescent detention center

- Cuban female, age 18, cocaine dependent, unaccompanied minor, was living in a common-law relationship, unemployed, lives in jail (accessory to murder)

- Ethiopian female, age 19, heroin dependent, unaccompanied minor, was living in a common-law relationship, unemployed, lives with a foster family

Young adult subjects in their twenties were as follows:

- Hmong male, age 22, alcohol-cannabis abuse, single, unemployed, lives alone

- Hmong female, age 22, opium dependent, separated, five children in welfare custody, unemployed, lives alone

- Palestinian male, age 23, heroin dependent, single, student, lives in university housing

- Hmong male, age 25, opium dependent, married, five children, unemployed, lives with family

- Hmong male, age 25, opium dependent, married, five children, unemployed, lives with family

- Lao male, age 27, cannabis dependent, single, unemployed, lives alone

- Hmong female, age 29, opium dependent, married, three children, lives with family (husband employed)

Data Collection

Information obtained regarding substance use included types of substances used, age at first use, years of use (excluding periods of abstinence), days of use in the past year, doses (including usual dose and maximum dose), and route of administration. Problems associated with use were described. Collateral sources of data were utilized in all cases; these included family, friends, and various professional persons. Rating scales included the Modified Michigan Alcohol-Drug Screening Test (Westermeyer and Neider 1988), Substance Abuse Problem Scales (SAPS) devised by the author, Beck Depression Inventory (BDI) (Beck et al. 1961), 90-item Symptom Checklist (SCL-90) (Derogatis et al. 1973), Hamilton Depression (Hamilton 1960) and Anxiety (Hamilton 1959) Scales (HAM-D and HAM-A), and Global Assessment Scale (Endicott et al. 1976). A five-axis DSM-III-R diagnosis (American Psychiatric Association 1987) was also made after a period of observation and evaluation that lasted 2 to 4 weeks in most cases.

Analysis

The number of cases was too small to utilize statistical analysis. These cases were studied to identify common issues and problems, as well as differences, among young drug-abusing refugees.

FINDINGS

Demographic Characteristics

Among these 13 subjects were 8 males and 5 females. All six adolescents were single, although the Cuban and Ethiopian females had been living in common-law relationships with male drug dealers. Three of the young adults were single, three were married and living with spouses, and one was separated from her husband. The educational levels of the adolescents ranged from 8 to 10 years of schooling, with a mean of 9.2 years. Among the young adults, three had no education; one had 2 years of college; one was a high school graduate; one had attended school for 10 years; and one had attended school for 3 years. Three of the adolescents were in high school and living with their family of origin; two adolescents were incarcerated; and one adolescent had recently been living with a boyfriend who traded in illicit drugs. All seven young adults were unemployed and living alone or with their family of marriage.

Premigration, Migration, and Postmigration History

Subjects had been in the United States for periods ranging from 1 to 9 years, with a mean of 5.6 years. Adolescents and young adults did not differ in the length of time they had been in the United States. However, their migration histories did differ to a considerable extent.

Four of the adolescents currently held or had previously held the legal status of "unaccompanied minors" (a specific category for refugees used by the Bureau of Naturalization and Immigration, U.S. Department of State). The 15-year-old Hmong male had fled with his parents and two younger siblings across the Mekong River from Laos into Thailand with a large group of Hmong. They came under fire, and his entire family was killed in the river. He had been placed with Hmong relatives in the United States. The 15-year-old Vietnamese male had come to the United States with his father and older brother; his mother remained in Vietnam. Soon after their arrival in the United States, his father died suddenly, and the youth was placed with an American family. The 18-year-old Cuban female, already in trouble with her family and community, fled Cuba with the Mariel refugees at age 16. Although placed as an unaccompanied minor, she soon entered a sexual liaison with an older Cuban man, also a Mariel refugee, who soon became a cocaine trader and merchant. She acquired her cocaine dependence through him. The 19-year-old Ethiopian female had escaped from Ethiopia after having been released from a political jail (her father and brothers also had been incarcerated as political prisoners). She fled to Greece as an illegal immigrant, where an Iranian drug dealer took her in and provided her with her first experiences with illicit drugs. After she became addicted to heroin and was sick, her boyfriend abandoned her. A refugee aid organization had facilitated her entry into the United States, where she again entered a relationship with a drug dealer and became readdicted to heroin.

The 15-year-old Cambodian male had come to the United States with both of his parents, who divorced soon afterwards. He was the only survivor among four siblings; the other three had died during the Pol Pot regime, as had all of his extended family except for a maternal uncle. He had witnessed numerous murders and massacres by the Khmer Rouge. The 15-year-old Lao-Hmong female was the oldest daughter among four siblings in an intact family. Her father worked 80 hours per week at two jobs, and her mother worked 40 hours per week at an evening job. In addition to her schoolwork, the patient was expected to care for her three siblings in the evenings and prepare dinner. A year earlier she had assumed a "punk" appearance, became sexually active with an adult man, started regular drinking, and refused to come home before midnight (about the time that her parents arrived home). Her father beat her with a wire and insisted that she act "in the proper Lao fashion." Her mother, not an ethnic Lao, did not support the father in his rigid expectations of the girl.

The young adults experienced a different set of circumstances vis-a-vis migration. Only one patient, a 25-year-old married Hmong man with five children, had experienced catastrophic losses prior to leaving his country. His father and three older brothers had died in the war in Laos, and his mother had died when he was a child. In addition, he had been attacked a year earlier by an intruding robber in his apartment, leaving him with a permanent injury to his eye. He had also lost his job 5 months earlier, about the time that he began to smoke opium to relieve the chronic pain in his eye. Another 25-year-old Hmong man, also the father of five children, began smoking opium soon after being laid off from work. A 22-year-old Hmong woman, the mother of five children, began smoking opium with her mother and female friends in a context of marital disharmony. Her unemployed husband had begun to abuse her verbally and physically, accusing her of infidelity. A 29-year-old Hmong woman smoked opium occasionally over a 3-year period in the company of her husband and friends. Her use increased after miscarrying a pregnancy and again after having a stillborn infant. The remaining two single men, one 22-year-old Hmong and one 27-year-old Lao, had recurrent psychotic episodes and repeated hospitalizations in association with cannabis and other substance abuse. Alienated from their families and unemployed, they associated with other substance abusers. The 23-year-old Palestinian, the eldest son of a wealthy merchant living in Lebanon, had been sent to the United States to cure his heroin habit and to establish an entree for the family in the United States. Although attending college with family support, he soon became lonely and craved heroin. He readily located heroin merchants and began to use his family's money to purchase heroin.

Substance Use-Related History

None of the six adolescents was known to have a family history of SUD. Among the seven young adults, three had family histories of SUD. One 25-year-old Hmong man had an opium-addicted father, and the other 25-year-old Hmong man had an opium-addicted mother (who was also readdicted in the United States). Both parents and the husband of the 29-year-old Hmong woman were opium addicts.

Three subjects (i.e., the 15-year-old Hmong male, the 19-year-old Ethiopian female, and the 23-year-old Palestinian male) had begun substance abuse prior to arriving in the United States. The Hmong young man began smoking cannabis in the Thai refugee camp soon after the deaths of his parents and siblings during the escape from Laos (there had been no funeral ceremonies or attempts to solace this grieving adolescent). The Ethiopian woman became addicted to heroin while living as an illegal resident of Greece, following her political arrest (as an activist student) and that of her father and brothers. The Palestinian man began using heroin in the context of the war in Lebanon where, as the eldest son in the family, he had been pressured by his father to relocate the family to a safe haven such as the United States. All the remaining subjects had initiated their cannabis, alcohol, opium, or cocaine use in the United States. The 18-year-old Cuban woman began cocaine use within 1 year after arrival in the United States. The remaining seven patients had begun their substance use after 2 to 7 years of residence in the United States.

The six adolescents had begun alcohol and/or other drug use in the company of friends. The three adolescent females had been introduced to substance use by adult male sexual companions. Among the seven young adults, three Hmong had begun opium use in the company of relatives (a mother in two cases, a husband in one case). The remaining four male adults had started opium, cannabis, heroin, and alcohol use in the company of peer-age friends.

The duration of use prior to the first clinical event had been relatively short in most cases. Among the six adolescents, three had been abusing cannabis or alcohol for about 1 year; three had been abusing cocaine, heroin, or cannabis for about 2 years. Among the four Hmong adults addicted to opium, their durations of use were 5 months, 1 year, 1 year, and 6 years. Three of these four opium addicts had begun addictive use virtually from the beginning of their opium use, whereas the fourth used opium for 3 years before becoming addicted. Among these four opium addicts, original use had varied from

3 to 10 pipes per day. Currently, they were smoking from 20 to 60 pipes per day (with a mean of about 40 pipes for the group). Two single men with recurrent psychoses had been abusing cannabis and other substances for several years, but their initial psychiatric hospitalizations occurred within a few years of initiating cannabis smoking. The Palestinian man had been addicted to heroin for more than a year in Lebanon but had been addicted to heroin in the United States for only 4 months before seeking treatment.

Five subjects abused cannabis by smoking it; two of them also abused alcohol heavily. Four persons were opium dependent. Two subjects were heroin dependent. One adolescent female abused only alcohol, and another adolescent female abused only cocaine. Three subjects also smoked at least 20 cigarettes daily for the last year, and another four subjects smoked cigarettes to a lesser extent.

Severity of SUD was assessed with the Modified Michigan Alcohol-Drug Screening Test. All the adult subjects scored above 20 (well into the pathological range), with a mean score of 25. On the SAPS, adult index scores for all 59 items ranged from .32 to .78, with a mean of .61. The adolescents scored lower than the adults but greater minimization, denial, and misrepresentation in this younger group made the scores less reliable. Despite these problems, the adolescent scores were in the lower range of pathology on the SAPS.

Other Psychiatric Symptoms and Disorders

Five of the six adolescents (excluding the Ethiopian woman) met behavior criteria for conduct disorder (American Psychiatric Association 1987) prior to age 18, including repeatedly starting fights, repeated casual sexual relationships, selling drugs, stealing, running away, truancy, lying, and disregard for rules or conventions. Generally, these behaviors began in early adolescence, although the Cambodian boy had begun repeatedly fighting and biting other children, consistently disobeying, lying, and stealing during his elementary school years. This Cambodian male also met criteria for posttraumatic stress disorder (PTSD) (American Psychiatric Association 1987); he had nightmares and intrusive thoughts of murders and massacres that he had observed prior to age 7. The 15-year-old Hmong orphan had missed bereavement as a result of losing his entire family 2 years earlier. The 19-year-old Ethiopian woman also had missed bereavement regarding the loss of her family. The 15-year-old Lao-Hmong girl was subjected to physical abuse by her father over a period of several months.

Among the adults, only the 23-year-old Palestinian man and the 29-year-old Hmong woman had no other Axis 1 psychiatric disorder besides their opiate addiction. Among the remaining five adults, two had recurrent psychotic episodes in association with their cannabis abuse and dependence. Both these men had received diagnoses of schizophrenia, schizoaffective disorder, and bipolar disorder with mania (American Psychiatric Association 1987). However, in the author's opinion, neither had been free of cannabis abuse over a sufficient duration to make any of these diagnoses. Delirium (toxic) psychosis (DTP) (American Psychiatric Association 1987) applied best to both of them at the current time. It was not possible in either case to obtain a sufficient period of abstinence to establish another diagnosis, and both of them had recurrences of psychosis in association with cannabis abuse. Two additional adults, both Hmong opium addicts, had major depressive disorder (MDD) (American Psychiatric Association 1987). One of these subjects, a 22-year-old Hmong woman, had a BDI score of 26, an SCL-Depression score of 2.46, and a HAM-D score of 22 (all well in the pathological ranges). The other MDD subject, a 25-year-old Hmong man, had a BDI score of 45, an SCL-Depression score of 2.46, and a HAM-D score of 16 (also in pathological ranges). The 25-year-old Hmong man had chronic pain and minor symptoms of depression following his discharge from work, robbery by a home intruder, and eye injury. His BDI score was 14, and his SCL-Depression score was 1.54 (both outside the normal range).

DISCUSSION

Despite the small number of subjects, certain general themes appear out of these cases, which warrant further study. If these findings are supported, they suggest means for possible prevention and early recognition of SUD. These findings also indicate the need for certain treatment resources to be available for young refugees with SUD.

Among adolescent refugees, status as an unaccompanied minor appears to have been an important etiologic factor. The vulnerability of refugee children separated from both their cultures and their families was described 35 years ago by Rathbun and colleagues (1958). In consultations conducted with Indochinese refugees in camps soon after flight from Southeast Asia, Harding and Looney (1977) and Looney and colleagues (1979) described the following among unaccompanied refugee children: depression, somatic complaints, sleep disturbance, social withdrawal, violence, and antisocial behavior. Some boys were described as "ready to cause trouble," and a few teenage girls were "dressed in a sexually provocative manner." Most of these unaccompanied refugee children have been placed in American families rather than in families of their own ethnic group; Egan (1985) has described the challenges for both the child and the family that ensue from this difficult situation. Eventual outcomes among such children can be salutary, especially if mental health services are available to these children and their families (McBogg and Wouri 1979; Rathbun et al. 1965).

Among those adolescents who were accompanied by family, absent or unavailable families was also a prominent finding. The latter consisted of families who did not accompany the young person, families in which war or political persecution had reduced family size, divorced or separated families, and families who devoted excessively long hours to work while leaving the children to fend for themselves. Tobin and Friedman (1984) have studied the attitudinal, behavioral, and value gaps apt to stress the refugee child-parent relationship; their findings are relevant to this issue.

All these factors underscore the importance of providing strong family support to refugee adolescents as they transit not only from childhood to adulthood but also from their traditional culture of origin to their new lives as foreign-born, minority Americans. As many of these adolescents may also manifest conduct disorder, missed bereavement, and/or PTSD, support for them may require professional assistance to the natural, foster, and adoptive families raising these young people.

Among young adults, other social factors appeared to be operative. One of these was acculturation failure, in association with illiteracy, heavy family obligations (including many dependent children), and/or job loss (refugees are often last hired and first fired). Comorbid psychopathology, including MDD and DTP, was prominent in this age group. Psychiatric care would be needed to address these conditions.

The course of the substance use-related disorder was rapid in these patients, with their first clinical event often occurring within a year or two after starting substance abuse. Smart (1979) has also noted a rapid course of SUD among native-born Canadian youth compared with older persons. Unlike alcohol, which has been the predominant substance of abuse in other American youth (Patterson et al. 1988; Sarvela and McClendon 1987), other drugs were clearly more common in this small sample of young refugees with SUD. Although a few subjects began their use of substances prior to arriving in the United States, most initiated their substance use after arrival. As Krupinski (1967) observed in Australia decades ago, substance abuse generally began after a few to several years in the United States. The substances of abuse were typically those found in the United States, such as cannabis and cocaine. However, several Hmong subjects used opium, the traditional drug of abuse from their Asian homeland (Westermeyer 1982). Two refugees, from Ethiopia and from Palestine, had begun heroin use prior to their migration to the United States.

In light of limited knowledge regarding drug use and abuse among refugee populations, further study is warranted. These case studies suggest that sampling should include subjects who have been in the United States for several years or longer, because delayed onset following migration appears frequent. By the same token, some recently arriving subjects should also be included, as cases of premigration drug use and abuse also were encountered. It is likely that such data would not be easily obtained from recently arriving, nonclinical subjects, because suspicion and fear among refugees often preclude data collection on such topics. Lengthy association with refugees, development of rapport, and field observation would probably be necessary to study younger adolescents, because questionnaires and interviews may yield dubious information. Acquisition of valid drug use information from younger adolescents is commonly a problem even in clinical samples of native-born children. Intensive case studies can yield useful information, as evidenced in these cases; but this method requires time, patience, and skilled personnel.

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Current Gaps and New Directions for Studying Drug Use and Abuse Behavior in Minority Youth

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INTRODUCTION

The drug-using behavior of minority youth[1] has been the subject of investigation by drug abuse researchers during the past 15 years (Achenbach et al. 1990; Austin and Gilbert 1989; Beauvais et al. 1989; Bachman et al. 1991; Brunswick 1979, 1988; Chavez and Swaim 1992; Clayton et al. 1990; Dembo et al. 1979; Debro and Bolek 1991; De La Rosa et al. 1990*a*; Glick and Moore 1990; Hartford and Lowman 1989; Maddahian et al. 1987; Moore 1985; National Institute on Drug Abuse 1990; Johnston et al. 1991; Rebach 1992; Trimble et al. 1987; Tucker 1985). Emanating from this research are data relating to the prevalence, patterns, and consequences of alcohol and illicit drug use and abuse within the minority youth population as well as speculations on the causes. As with previous drug abuse research on nonminority populations, this new information may prove valuable to practitioners, policymakers, and law enforcement officials in developing effective and efficient drug use prevention and treatment programs and law enforcement strategies targeted to the minority youth population (Bachman et al. 1990; National Commission on Drug-Free Schools 1990; Office of National Drug Control Policy 1992; Leukefeld and Bukoski 1991; Griswold-Ezekoye et al. 1986). Despite this recent proliferation of additional information, however, researchers still do not adequately understand the extent and nature of the licit and illicit drug-using behavior[2] of minority youth.

This chapter (1) provides a broad overview of the most recent research findings and discusses some of the existing gaps in research, (2) delineates the critical elements of a more comprehensive etiologic model of drug-using behavior by minority youth that can serve as the foundation for future etiologic research, and (3) proposes the development of a data collection approach that uses qualitative methods in combination with quantitative methods for determining the drug-using behavior of minority youth.

OVERVIEW AND GAPS IN RESEARCH ON THE DRUG-USING BEHAVIOR OF MINORITY YOUTH

Epidemiologic Research

Data from the National Household Survey on Drug Abuse (NHSDA), the Monitoring the Future High School Senior Survey, and a survey on the drug-using behavior of American Indian youth have indicated that, except for American Indian youth, minority youth ages 12 to 24 were less likely during their lifetime or during the past month to have used alcohol, cigarettes, psychotherapeutics (i.e., nonmedical use of sedatives, tranquilizers, stimulants, and analgesics), and most types of illicit drugs (i.e., marijuana, inhalants, hallucinogens) compared with their white non-Hispanic counterparts (Beauvais et al. 1989; National Institute on Drug Abuse 1991*a*, 1991*b*, 1992). By contrast, the findings from these surveys also indicated that minority youth, particularly African-American and Hispanic youth, were more likely than their white non-Hispanic counterparts to have used cocaine and crack at least once during their lifetime or in the month preceding their interviews.

Furthermore, data from the Drug Abuse Warning Network (DAWN) for 1989 on emergency room episodes suggest that African-American and Hispanic male and female youth ages 12 to 17 had higher rates of cocaine-related emergency room admissions than their white non-Hispanic counterparts (National Institute on Drug Abuse 1990). In addition, African-American and Hispanic male and female youth ages 12 to 17 had higher rates of heroin- and cocaine-related emergency room admissions per 100,000 populations than their white non-Hispanic counterparts. These DAWN rates may be influenced by many factors, including the lower rate of private health insurance and the higher prevalence of cocaine and crack use among minority youth compared with nonminority youth. Whatever the reasons, the DAWN data support other findings that have shown that severe health consequences may be associated with the use of such drugs as cocaine and heroin (Fischman et al 1985; Gawin and Kleber 1985). Other consequence-oriented research has suggested that a stronger association exists between dropping out of school and illicit drug use among minority youth, particularly Hispanic adolescents, than among their white non-Hispanic youth counterparts (Chavez and Swaim 1992; Chavez, this volume; Friedman et al. 1985).

Despite these findings, additional research is needed to more adequately understand the patterns, prevalence, and consequences of illicit and licit drug use and abuse within minority youth populations. Current research has not been able to provide comprehensive information as to the prevalence of drug use among minority youth ages 12 to 24 who belong to recent immigrant groups. Little, if any, information exists on the prevalence of drug use in Asian-American and Pacific Islander youth, Hispanic youth of

South and Central American origin, and with the exception of Puerto Ricans, youth from Caribbean nations (National Institute on Drug Abuse and Capital Consulting Corporation 1991). Furthermore, the prevalence of drug use and abuse among foreign-born and first-, second-, and third-generation minority youth remains unexplored. Even when information exists as to the prevalence of drug use among Hispanic, African-American, American Indian, and Alaska Native youth, these data have been challenged. The inability to generate representative samples of minority youth, resulting in sampling errors, higher nonresponse rates, and response bias, has led some researchers to question the validity and reliability of data on the licit and illicit drug use behavior of minority youth (LoSciuto et al., this volume; Groves 1987; Marin and Marin 1991; Cox et al. 1991; Virag et al. 1991).

Information on the dynamic and continually changing patterns of drug use among the various ethnic and racial minority groups needs additional exploration. Studies are needed to evaluate whether the patterns of drug use and progression to abuse among minority youth mirror those of nonminority youth. Previous research studies have suggested that nonminority youth follow a specific pattern of drug use and progression to abuse, as illustrated by the use of wine, beer, and cigarettes before escalation to marijuana and other illicit drugs such as cocaine, PCP, and heroin (Kandel 1982; Hawkins et al. 1985; DeMarsh and Kumpfer 1986). By contrast, anecdotal information derived from prevention, education, and treatment programs serving minority youth suggests that, unlike many nonminority youth, minority youth do not follow these same patterns of drug use and subsequent progression to abuse (Office for Substance Abuse Prevention 1991). Instead, many minority youth start their drug-using behavior with inhalants and alcohol and progress quickly to using cocaine and heroin accompanied with heavy alcohol use (Austin and Gilbert 1989; Crider and Rouse 1988).

In addition, there is a dearth of research on the effect of drug use on the emotional and physical well-being of minority youth. Data derived from national surveys as well as more focused studies have provided limited information about this effect on minority youth and their families or on the social and economic survival of inner-city minority communities (Kopstein and Roth 1990; Dembo et al. 1990; Soriano and De La Rosa 1990; Wallace and Bachman 1991). For example, research is needed to determine the interrelationship between the drug-using behavior of minority youth and the high rate of homicides and other violent criminal acts found among these youth (De La Rosa et al. 1990*b*; Elliott et al. 1985). Whether the use of drugs and drug dealing account for most of the homicides and other violent acts reported among minority youth or whether they are merely statistical artifacts of a subculture of violence characterizing many inner-city minority communities is yet unanswered.

How the educational and vocational careers of minority youth are affected by their using drugs is another area needing further investigation. Also needed is research that examines the role that drug use plays in minority youth dropping out of school and, thus, further handicapping their opportunities for gainful employment (Chavez et al. 1989; Friedman et al. 1985). Finally, the interrelationship between the intravenous drug-using behavior of minority youth and the prevalence of human immunodeficiency virus infection, hepatitis, sexually transmitted diseases, and tuberculosis should be explored in more depth.

Etiologic Research

Similarly, although some progress has also been made in understanding the underlying factors responsible for the drug-using behavior of minority youth, many more gaps remain. Research is needed that explores the role that familial factors such as lack of family support, family violence, and lack of male role models play in the initiation, continuation, escalation, and cessation of drug use in the minority youth population (Brook, this volume; Watts and Wright 1990). Other potential familial risk factors that may be associated with the drug-using behavior of minority youth that have not been adequately researched include poor parental supervision, serious parental drug use, the breakdown of the extended family system, the changing role of the mother within the family system, and the family's low socioeconomic status (Brook, this volume; Vega 1990; Recio Adrados 1990; Hardway et al. 1990). Previous research only recently has investigated the interrelationship between familial factors and initiation into drug use among Hispanic and African-American youth (Brook, this volume). Missing is theory-based research, which would explore the causal link between familial factors such as those mentioned above and the initiation to drug use and, more important, progression to abuse among minority youth. Needed also are studies to examine whether familial factors have a greater positive or negative impact on the drug-using behavior of foreign-born or U.S.-born first-, second-, and third-generation minority youth. Studies are also needed to examine the link among the disintegration of the traditional familial value system found nowadays among minority populations, the socioeconomic status of minority families, and the increasing involvement of minority youth in drug distribution.

In addition, research is needed to investigate the importance of cultural values, acculturation-related stress, and loss of cultural identification on the drug-using behavior of minority youth populations. The lack of definitive research to adequately understand, operationalize, and measure the construct of culture as it relates to the drug-using behavior of various racial and ethnic minority groups can be attributed to its complexity and multidimensionality (Recio Adrados, this volume; Vega et al., this volume; Marin and Marin 1991). Most research exploring the role of acculturation on the drug-using behavior of minority youth has been based on studies that utilized clinical case studies or employed small nonrandom samples of middle-class Cuban-American youth, a group not representative of other minority youth (Szapocznik and Kurtines 1980). This research has suggested that the stress between Cuban-American adolescents and their parents caused by emerging parent-child cultural differences may be a factor responsible for the increase in the use of drugs among Cuban-American youth. Studies are needed that explore the impact that acculturation-related stress has on the drug-using behavior of foreign-born and first-, second-, and third-generation Hispanic youth of Mexican, Caribbean, and South and Central American ancestry; Asian-American youth; and American Indian youth. Of particular interest are studies that explore the role of cultural values in protecting minority female adolescents, particularly those belonging to recent immigrant groups, from the use and abuse of drugs. Equally important is research to explore the interrelationship between loss of cultural identity, low self-esteem, lack of economic opportunity, and drug use among minority youth.

The effect of association with deviant peers on the drug-using behavior of minority youth and their possible subsequent transition into heavy drug use also should be explored in greater depth. Investigation of this association is important in that research conducted on the drug-using behavior of nonminority youth has determined that association with deviant peers may be more responsible for adolescents' initiation to alcohol and tobacco use than for progression to drug abuse (Kaplan et al. 1987; Newcomb and Bentler 1986; McLaughlin et al. 1985; Gottlieb and Baker 1986). Particularly needed are studies that will investigate whether association with deviant peers plays a more important role in the drug-using behavior among first-, second-, and third-generation U.S.-born Hispanic and Asian-American and Pacific Islander youth than among their foreign-born counterparts. The importance of this research is highlighted by the fact that previous research has suggested that foreign-born Hispanic youth are less likely than their American-born counterparts to be influenced by their peers into deviant activities or behaviors (Vega 1990). Moreover, existing research has not adequately explored the impact of the high availability of drugs and drug distribution networks in minority communities, poor school systems, weak attachment to religious institutions, and the lack of adequate community recreational and employment opportunities and their effect on the drug-using behavior of minority youth. Although information exists on this topic, it is largely anecdotal and has not addressed the impact that the emerging crack distribution trade has had on the drug-using and drug-dealing activities of minority youth (Brunswick 1988; Glick and Moore 1990; Johnson et al. 1985; Padilla 1987; Pettiway, this volume). Except for the studies by Bachman and colleagues (1991) and Wallace and Bachman (1991) relating to the importance of religious institutions in the drug-using behavior of African-American youth, the remaining studies have concentrated on examining the interrelationship between the drug-using behavior of minority youth and their involvement in criminal activities. Needed are studies that investigate the role that the poor economic conditions of many minority youth have on their involvement in the crack distribution trade and drug-using behaviors. Lacking also is etiologic research to explore the interactive effect that the above-mentioned environmental factors have on the drug-using behavior of minority youth. Investigation of these factors is important given the high rate of unemployment and poor school systems in inner-city minority communities compared with nonminority enclaves in urban and suburban areas as well as the prominent role religious institutions play in minority communities (Sampson 1987; McGeary and Lynn 1988).

Concomitantly, studies are needed to determine the effect of minority youth drug use and related criminality on the social and economic well-being of resident neighborhoods affected by the drug problem (Moore 1985; Johnson et al. 1985, 1990; Fagan and Ko-lin 1990). Anecdotal information suggests that the emergence of drug distribution networks has resulted in a flight of capital and small business from inner-city minority communities to suburban areas (Johnson et al. 1990). Additional study of drug-using behavior is warranted for investigating the impact of societal forces such as racism; negative experiences with established social institutions such as law enforcement organizations, schools, and social service programs; and the sense of powerlessness that many minority youth feel. As the recent events related to the Rodney King trial in Los Angeles in 1992 have shown, inherent frustration toward existing social institutions can result in the adoption of deviant behaviors that can be destructive to individuals as well as to their communities (The Washington Post 1992).

There also is a need for research to investigate whether minority youth exhibit certain individual neurobiological and/or genetic as well as emotional predispositions to the use and eventual abuse of specific drugs such as cocaine and heroin that differ significantly from that of nonminority youth (Hesselbrook 1986). Such research should explore individual vulnerability to drug use spanning the different maturational periods of youth, beginning in early infancy and progressing through young adulthood. Using this longitudinal approach, researchers can explore whether minority youth who were identified as infants and children as having problems (e.g., temper tantrums, lower responses to positive parental stimuli, lower-than-average differentiation of self and others) were more likely to become users and abusers of drugs than other minority youth who showed no such signs of infant and childhood problems. Other individual variables, such as gender, need further exploration as to their impact. Although recent research has shown that being male continues to be an important risk factor associated with drug-using behaviors among minority youth, changing cultural values are exposing more minority female adolescents, particularly those belonging to recent immigrant groups (e.g., from Central and South America and the Caribbean) to the use and abuse of licit and illicit drugs

(Vega 1990; Austin and Gilbert 1989; Gfoerer and De La Rosa, in press; Caetano 1988; Rodriguez and Recio Adrados, in press).

Most needed, however, is research that investigates the interactive roles of intrapersonal, interpersonal, familial, cultural, and community factors and other larger societal factors relating to drugs and minority youth such as onset, casual use, escalation to abuse, maintenance, development of dependence, cessation of abuse, and relapse. This research should explore whether certain factors play a more significant role in protecting or exposing specific subgroups of minority youth to a drug-using lifestyle. For example, research is needed that would explore whether such factors as low self-esteem, association with deviant peers, weak religious affiliation, and lack of familial support play a more significant role in the drug-using behavior of Mexican-born youth than among third-generation Mexican-American adolescents, African-American youth, or youth belonging to the other ethnic or racial subgroups. This research should be theory driven and based on a comprehensive conceptual framework that would allow researchers to adequately investigate the underlying factors responsible for the drug-using behavior of minority youth (Tucker 1985).

PROPOSED ELEMENTS OF A MORE INTEGRATED ETIOLOGIC MODEL OF DRUG USE AND ABUSE AMONG MINORITY YOUTH POPULATIONS

To enhance research on the drug-using behavior of minority youth, future etiologic studies need to go beyond the few existing theoretical models utilized to explain drug-using behavior among these populations. The few conceptually based studies conducted on the drug-using behavior of minority youth have been based on unidimensional theoretical models that have asserted that drug use and abuse may be (1) mostly due to familial problems, (2) caused by external stressful and constraining environmental forces, (3) the result of faulty interpersonal relationships or psychological problems, (4) caused by acculturation-related stress, or (5), to a lesser extent, the result of some intraindividual vulnerability such as biological susceptibility to a particular drug or type of drugs (Brook, this volume; Rodriguez et al., this volume; Vega et al., this volume). The theoretical models used in this research also tended to be based on conceptual frameworks that are grounded only or primarily in the sociological sciences, the psychological sciences, and to a lesser degree the biological sciences. Furthermore, these etiologic conceptualizations of the problem also tend to limit researchers from one discipline (e.g., psychology, sociology, medicine) in integrating their knowledge with those of other disciplines to develop a more integrated and multidimensional approach to the study of drug use and its related problems among minority youth. Few conceptualizations integrate knowledge from all the related sciences (Battjes and Jones 1985; Kaplan et al. 1987).

Although these views of causation of drug use have merit, they do not fully address the complexity of the drug problem thought to exist within minority youth populations. As with more recent drug abuse research on nonminority youth, future research on the drug-using behavior of minority youth needs to be based on a more integrated conceptual model. Such a conceptualization should consider not only individual and environmental factors but also the interaction of these factors in exposing minority youth to or protecting them from drug-using behavior. As an essential criterion, this model must be multidimensional and have a multidisciplinary approach. In addition, it should be based on a person-in-situation-environment configuration, including the various stages of the drug use continuum: nonuse, initiation of use, escalation to abuse, addiction, cessation of drug use, and potential relapse. This person-in-situation-environment configuration will allow this model the flexibility to adjust its theoretical framework to be sensitive to those factors thought to be most important to the development of drug-using behavior among each of the various racial or minority groups.

Essential to this conceptual framework is the concept that the risk for drug use and abuse evolves over time and is particularly high during the maturational period of the individual, mainly the adolescent years. Thus, as envisioned, this model must be dynamic and not static oriented. The model must also encompass the recognition that drug use and abuse can become a progressive, chronic, and relapsing disease that evolves and manifests itself in unique ways for different individuals. For some, drug-using behavior develops into psychoactive substance dependence as defined by specific diagnostic criteria (American Psychiatric Association 1987). For others, drug-using behavior does not go beyond experimentation.

Critical to this conceptual framework is the reciprocal relationship that exists between individuals and their immediate social environment (i.e., family, friends, neighborhood, school, workplace). The authors' hypothesis is that an individual's drug-using behavior, including drug-dealing activities, may affect positively or negatively economic, social, or behavioral activities, including the use of drugs by family members, friends, schoolmates, coworkers, or neighbors. For example, a minority youth who uses and sells drugs can create an environment that may influence a younger sibling's involvement in drug-using activities. So, too, the drug-using behaviors or drug-dealing activities of a minority youth may so anger his or her neighbors that they may organize their neighborhood to rid it of drugs. In turn, the neighbors' actions may lead to the creation of a neighborhood environment not conducive to drug-using and drug-dealing activities. The development of such an environment could eventually have a positive impact in reducing the drug-using behavior and drug-dealing activities of such a youngster. Similarly, the warmth and loving support that families provide youngsters who live in "high-risk" communities can have a significant influence in preventing their involvement in deviant behaviors, including drug use.

Equally important to the proposed model is the recognition that reciprocal interrelationships exist between societal forces and the immediate social and physical environment of minority youth. These interrelationships can create the social and economic conditions that may either expose minority youth to or protect them from involvement in drug-using behavior. For example, the lack of public and private resources to address the high unemployment rates existing in many inner-city minority communities has been blamed for creating the economic conditions thought to be responsible for the development of drug distribution businesses and networks that often proliferate in these communities (Johnson et al. 1990). In turn, these drug distribution organizations have resulted in a greater availability of drugs to minority youth and other individuals living in these communities. Many minority leaders have considered the availability of drugs accompanied by the lack of economic opportunity the main factors responsible for the increasing use of drugs and the drug-dealing activities of minority youth.

Application of the above-mentioned elements can result in the development of comprehensive models to explain drug-using behavior among minority youth as has been proposed by drug abuse researchers in their quest to understand the underlying factors responsible for the drug-using behavior of nonminority youth. Previous etiologic research on the drug-using behavior of nonminority individuals has used comprehensive theoretical models to explore the nature and extent of drug use among these populations (Huba et al. 1980; Kaplan 1990; Kaplan et al. 1989; Glantz 1992). Elements of this model should be synthesized from previous research conducted on nonminority populations that has described the biological, intrapersonal, interpersonal, sociocultural, and economic domains that may be directly related to the drug-using behavior of nonminority youth (Jessor and Jessor 1977; Huba and Bentler 1982; Cadoret et al. 1986; Brook et al. 1988; Cloninger et al. 1988; Hawkins et al. 1985; Hesselbrook 1986).

Underpinning this model is the principle of ecological system theory, which states that behavior is dynamic in nature and must be measured within the person-in-situation-environment and that changes in one part of a system can affect functioning in other parts (Germain and Gitterman 1980). The proposed model also should integrate the principles of human development from the neonatal period through early adulthood. Finally, also underpinning the comprehensive model is the testing of principles embodied in Kandel's Gateway model (Kandel et al. 1978), which theorizes that adolescents, regardless of their ethnic or racial background, usually progress through different stages of drug use initiation, with each stage facilitating escalation to more frequent use with larger doses and more types of illegal drugs (Kandel et al. 1978). The integrated etiologic model will explore whether minority youth, like nonminority youth, progress through increasingly deviant behaviors for their index group rather than a particular order of drug use.

TOWARD THE DEVELOPMENT OF A MORE COMPREHENSIVE DRUG ABUSE DATA COLLECTION APPROACH

Important to the enhancement of drug abuse research on minority youth is the need to develop more effective strategies for collecting valid and reliable information on their drug-using behavior. Most needed is a community-based approach grounded in both qualitative and quantitative methods. Using this approach, certain aspects of qualitative methodology would be utilized in the improvement and refinement of the data collection procedures and instruments used in cross-sectional and longitudinal drug abuse studies on minority youth. Ethnographic field stations; discussion and focus groups with users, former users, and nonusers; and extensive observational studies are the methods needed to address some of the most serious concerns affecting quantitative-oriented etiologic research on the drug-using behavior of minority youth. Utilization of such methodological approaches, however, may need adjustment and further refinement based on different problems and conditions encountered when collecting drug use information from the different subgroups of minority youth.

By utilizing ethnographic field stations, drug abuse researchers may be able to improve their image in minority communities and gain more access to these communities. As previous research on the drug-using behavior of minority youth has shown, two serious problems confronting drug abuse researchers are their poor image in minority communities and the lack of trust that many minority individuals have toward them (Debro and Conley, this volume; Debro and Bolek 1991; Joe, this volume). According to Debro and Conley (this volume) and Milburn and coworkers (1991), the most effective method of building linkages with minority communities is through the utilization of ethnographic field stations and discussion groups. Quantitative-oriented drug abuse researchers who are able to establish rapport with minority communities will be in a better position to collect the most useful information on the drug-using behavior of minority youth (Milburn et al. 1991; Goldstein et al. 1990).

The information obtained by researchers through the use of discussion groups and extensive observation can also help in the enhancement of current sampling and retention procedures used in drug use surveys and longitudinal studies. The selection of matched control groups in community-based research designs may be enhanced through this method. Having extensive information on the population of interest also may help in the development of more effective strategies to identify, select, and interview representative samples of minority youth in longitudinal-oriented studies (Watters and Biernacki 1989). Obviously, the ability of drug abuse researchers to interview the most representative sample of minority youth will enhance the generalizability of the study results. This is particularly true of special subpopulations of minority youth, such as school dropouts, homeless youth, and gang members, where there are no studies that represent population samples.

Knowledge of the research population may also help researchers to develop effective retention plans to track and retain minority youth in longitudinal studies. Gaining and maintaining the cooperation of school officials is essential to the development of a good tracking system. One method that could be used is to elicit such cooperation to provide minimal services to school systems such as the provision of information on the rate of drug use for each school participating in the study through an annual report to the school principal. Two other methods that drug abuse researchers could utilize to track students effectively are the development of a survey log list containing up-to-date information on the whereabouts of the students and the publication of a newsletter to be distributed among parents of children attending the schools participating in the study. According to Bush and colleagues (this volume) and Cordray and Polk (1983), the quality of data collected in longitudinal studies is dependent on the ability of the researcher to track and retain as many subjects as possible. As the number of subjects who remain in the study decreases, the ability to generalize the results also decreases.

The information obtained from these ethnographic field stations and focus group techniques can assist in the development of scales and interviewing instruments that will more appropriately measure the effects of cultural and community factors on the drug-using behavior of minority youth (Vega et al., this volume; Recio Adrados, this volume; Rogler et al. 1991; Rogler 1989). As many drug abuse researchers have stated, a serious gap in the field is the lack of valid and reliable scales to measure underlying social and cultural factors thought to be related to the drug-using behavior of minority youth (Vega et al., this volume). Such scales, if developed properly, could measure the loss of cultural identity; acculturation-related stress; the influences of availability of drugs; and the influence of housing conditions, recreational facilities, health care facilities, social service institutions, and places of worship on the drug-using behavior of minority youth.

The use of a combined qualitative and quantitative methodological approach could also reduce the refusal rates and underreporting problems associated with drug use surveys and longitudinal studies that collect data on the minority youth population (Cox et al. 1991; LoSciuto et al., this volume). These problems often have affected the validity and reliability of the collected drug use data. Finally, utilizing qualitative methods such as the use of focus groups can enhance the ability of drug abuse researchers to generate hypotheses or research questions that can serve as the foundation for etiologic research. Drug abuse researchers often have preconceived notions regarding the nature of the drug use problem among minority youth that may not reflect a minority community's view regarding this problem. Failure by drug abuse researchers to validate their views with those of the community may lead to the development of research projects based on erroneous assumptions.

This proposed approach to combine qualitative and quantitative methods in drug abuse studies is not a departure from past research designs employed by other drug abuse researchers. Ethnographic field stations in combination with social survey methodology have been used recently by researchers such as Waldorf (1991), Morgan (1990), and Chavez (this volume) to locate, interview, and retain gang members, school dropouts, and homeless individuals. Other researchers such as Brook (1988), Vega (1988), and Thornberry (1991) have recently used focus groups to develop scales to collect more valid information on the drug-using behavior of minority youth.

However, notwithstanding these efforts, the integration of qualitative and quantitative methods in drug abuse research is the exception rather than the rule. Current drug abuse research of minority youth continues to follow methodological approaches grounded in either ethnographic studies, cross-sectional surveys, or to a limited degree, longitudinal studies. Researchers surveying drug use or conducting longitudinal studies of minority youth have seldom availed themselves of focus groups in developing their instruments or in identifying and interviewing study participants. Conversely, ethnographers often have failed to move their studies on the drug-using behavior of minority youth beyond the exploratory stages. They have made few linkages with quantitative methodologies to utilize the results from such research to develop well-thought-out research questions and questionnaires (Feldman and Aldrich 1990). This lack of integration may be attributed to the relative infancy of drug abuse research as well as to the deficiency of research institutions to train researchers, particularly minority scientists, in the integrative use of qualitative and quantitative methodologies (Debro and Bolek 1991). It should be noted that an integrative approach to the collection of drug use data on minority youth must be accomplished within an interdisciplinary framework. This framework would allow for the development of an approach based on the combined expertise of quantitative methodologies and ethnography.

CONCLUSION

The development of an integrated qualitative/quantitative community-based research design model based on a culturally appropriate etiologic model is essential to the future understanding of the drug-using behavior of minority youth. Emanating from such research will be descriptive profiles or typologies to permit early identification of minority youth at risk of using drugs or becoming abusers. The data collected through this research also will be critical in developing effective and culturally appropriate individual, family, and community prevention and treatment strategies and programs. As the minority population in the United States continues to increase, the failure to address the problem of drug use within minority youth populations can be detrimental to the social and economic well-being of this country.

NOTES

1. As has been defined in this monograph, minority youth are youth up to 24 years of age and include foreign-born as well as U.S.-born (first-, second-, and third-generation) Asian-Americans and Pacific Islander youth (i.e., Vietnamese, Filipino, Korean, Cambodian, Chinese, Japanese, Samoan); Hispanic youth (i.e., Mexican-American, Cuban-American, Puerto Rican, South and Central American, or other Caribbean youth of Spanish ancestry); African-American youth; youth immigrating recently from other countries such as Haiti, Jamaica, Uganda, and Nigeria; and American Indian and Alaska Native youth belonging to one of more than 200 tribes currently found in the continental United States and Alaska. In addition, although the focus of this research monograph is on minority youth, some of the issues discussed can be used to improve understanding of the drug use problem faced by minority individuals 25 years and older and nonminority youth and adults.

2. Drug-using behavior is being used interchangeably in this chapter with licit and illicit drug use.

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